

# CRISTAL TOWER

## MY19



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



## WIRING DIAGRAM

412100947000	31
412100948000	32
412100949000	33
412100972000	34
412100973000	35
412100979000	36
412100980000	37

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The manual contains symbols to attract the reader's attention and highlight particularly important aspects. The table below illustrates the meaning of the various symbols used.

	Read the manual		Use of protective clothing
	DANGER Live electrical parts		Maintenance requirement or operations that must be completed by qualified personnel or technical assistance centre
	ATTENTION / DANGER		Important information
	Information		Operations that must be performed by two persons
	Eye check		Notes/Important Notes
	DANGER Slipping		Waste disposal
	DANGER Tripping		Recyclable Material
	Earthing		

### 1. NOTES / WARNINGS

**ISA** employs materials of the best quality and as they enter the company, we constantly monitor their storage and the use as part of the manufacturing process to prevent damage, deterioration and failure. All manufacturing elements have been designed and manufactured in order to guarantee high safety and reliability standards. All appliances are subjected to a strict testing procedure before delivery. However, please bear in mind that product performance over time depends on correct use and adequate maintenance. This manual contains the necessary instructions to maintain the appliance's initial appearance and functions over time.

The use and maintenance manual contains the information required to understand the operating modes of the appliance and for its correct use, in particular: the technical description of the various functional units, accessories and safety systems, operation, use of instrumentation and interpretation of any diagnostic warnings, main procedures and information relating to the ordinary maintenance operations. For correct use of the appliance, the working environment should comply with current health and safety standards.

The safety requirements, indications, standards and notes illustrated in the various chapters of the manual are aimed at establishing a code of conduct and a series of obligations to be observed when performing the various activities, in order to create safe conditions for personnel, the equipment and the surrounding environment.

The safety standards reported in this document are intended for trained, authorised personnel responsible for:

- Transport
- Installation
- Operation
- Management
- Maintenance
- Cleaning
- Decommissioning
- Disposal



#### **ATTENTION**

Reading this manual, albeit in full, is no substitute for adequate user experience. therefore it should only be considered a useful reminder of the technical features and the main operations to perform.



#### **WARNING**



The installers and users **MUST** read and understand the instructions contained herein before any operation on the appliance.

## 1. NOTES / WARNINGS



### NOTE

The contents of this manual are of a technical nature and are owned by **ISA**. It is forbidden to reproduce, circulate or modify all or part of its content without written consent. Any infringement will be legally pursued.

The manual and the conformity certificate are an integral part of the equipment and should always accompany the product in the event of a transfer to a new location or to a new owner. The user is responsible for the integrity of these documents, for their consultation and during the whole life cycle of the equipment itself. Keep this manual in a safe place. It should be available for consultation near the equipment at all times. If lost or destroyed, you can request a copy of the manual from **ISA** by specifying the exact model, serial number and year of manufacture. The manual reflects the manufacturing technology at the time of supply. The manufacturer reserves the right to modify its products in any way it deems necessary, with no obligation to update manuals and machines relating to previous manufacturing batches.

The equipment can be used by children no younger than 8 and by persons with reduced physical, sensory or mental capabilities, or lacking experience or necessary knowledge, as long as supervised or after having received training regarding safe use of the equipment and have an understanding of the inherent risks involved. Do not allow children to play with the device. The cleaning and maintenance that the user will carry out must not be undertaken by children without supervision.

Always refer to this manual before going ahead with any operation. Before doing any type of work, disconnect the equipment from the power supply. Any work on electric and electronic parts or cooling system components should only be carried out by trained personnel in compliance with current laws.

The Manufacturer cannot be held liable for any damage to persons, animals or to the product in the following cases:

- improper use of the equipment or use of the appliance by unqualified or unauthorised personnel.
- Failure to comply with current legislation.
- Incorrect installation and/or power supply faults.
- Failure to observe the instructions contained in this Manual.
- Failure to follow the maintenance schedule.
- Unauthorised modifications.
- installation of non-original spare parts in the equipment.
- installation and use of the equipment for purposes other than those for which it was designed and sold.
- Tampering with or damage to the power supply cable.

### 1. NOTES / WARNINGS

Liability for applying the safety instructions contained in this manual is held by the technical personnel responsible for the intended use of the equipment, who should ensure that authorised personnel:

- Are qualified to carry out the requested activity.
- Are aware of and carefully comply with the instructions contained in this document.
- Are aware of, and apply, the general safety standards applicable to the equipment.

The buyer is responsible for training personnel using the appliance on the risks, safety devices and general health and safety rules required by the laws of the country where the appliance is installed. Users/operators should be aware of the position of all the controls and how they work, as well as of the features of the appliance. They should also read this manual in its entirety. Maintenance work should be conducted by qualified personnel after the appliance has been prepared adequately.



#### **DANGER**

Unauthorised tampering with or replacement of one or more parts of the appliance, the use of accessories that modify its purpose and the use of spare parts other than those recommended may become a source of accident risks.



#### **DANGER**

Any work carried out on the on the appliance **must** involve disconnection from the power socket and in any case, none of the protective elements (grid, casing) should be removed by non-qualified staff; avoid operating the equipment with such protections removed. Before carrying out any cleaning, maintenance or replacement operation, disconnect the equipment from the mains by unplugging it from the electrical supply. During these operations the operator must be able to ensure that the plug remains disconnected.



#### **NOTE**

In order not to compromise the operation and the safety of the appliance, particularly complex installation and maintenance operations are not documented in this manual and must be performed by specialised technicians of the undersigned company.

Never use electric devices inside this appliance. Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer. Keep the air vents in the casing of the appliance or in the structure built into the wall free of obstructions. Do not damage the refrigeration circuit.

The A-weighted emission sound pressure level is lower than 70 dB (A).

#### **RISK OF EXPLOSION**

Do not store products containing flammable propellants or explosives.

### 1. NOTES / WARNINGS

#### STAFF TRAINING

The buyer is responsible for ensuring personnel who will use the appliance and maintenance technical staff are instructed and trained adequately. The manufacturer is available for advice, clarifications, etc. so that the operator and technical staff can use the appliance correctly. To ensure operator safety, appliance devices should be kept in constant working order. This manual is intended to illustrate the use and maintenance of the appliance. The operator has a responsibility and duty to carefully observe the instructions contained within it.

Failure to comply with safety standards may result in injury to personnel and damage to the equipment components and control unit. The user can contact the dealer to request additional information not contained in this document, or suggest improvements, at any time.



Before the product is delivered to the customer, **trained technical personnel** must check that the appliance is operating correctly in order to achieve maximum performance.

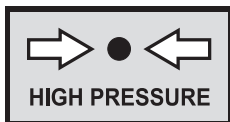
#### COOLANTS

##### R744

The refrigerant **R744** is a gas that is compatible with the environment. Pay close attention during transport, installation and that the destruction not to damage the refrigerant pipelines.

##### IN THE EVENT OF DAMAGE:

Keep flames or sources of ignition away from the appliance. Properly ventilate the premises for a few minutes. Turn the unit off, pull the plug. Notify the customer service department.



##### ATTENTION

The refrigerant system is **High Pressure**.

Do not tamper with the system, but call a specialised and qualified technician before disassembly.



##### ATTENTION

Maintenance must be performed by qualified personnel that has been to work with flammable refrigerants.

## 1. NOTES / WARNINGS

### COOLANTS

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#### R290



The refrigerant **R290** is a gas that is compatible with the environment, **but is highly flammable**. Pay close attention during transport, installation and that the destruction not to damage the refrigerant pipelines.

#### IN THE EVENT OF DAMAGE:

Keep flames or sources of ignition away from the appliance. Properly ventilate the premises for a few minutes. Turn the unit off, pull the plug. Notify the customer service department. The more refrigerant containing an appliance, the greater must be the environment in which there is the unit. In areas too small, in the event of leakage can form a flammable mixture of air and gas. **The volume of the room where the appliance is installed must be at least 19 m<sup>3</sup> for each cooling system present in the room.**



#### ATTENTION

Maintenance must be performed by qualified technical personnel trained and qualified to perform interventions on flammable coolants.

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#### R600a



The refrigerant **R600a** is a gas that is compatible with the environment, but is **highly flammable**. Be very careful when transporting, installing and scrapping the appliance to avoid damaging the coolant circuit pipes.

#### IN THE EVENT OF DAMAGE:

Keep flames or sources of ignition away from the appliance. Properly ventilate the premises for a few minutes. Turn the unit off, pull the plug. Notify the customer service department. The more refrigerant containing an appliance, the greater must be the environment in which there is the unit. In areas too small, in the event of leakage can form a flammable mixture of air and gas. **The volume of the room where the appliance is installed must be at least 17 m<sup>3</sup> for each cooling system present in the room.**



#### ATTENTION

Maintenance must be performed by qualified technical personnel trained and qualified to perform interventions on flammable coolants.



## 2. MANUFACTURER

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## 3. WARRANTY TERMS AND CONDITIONS

The seller's warranty on the equipment is valid for **12 (TWELVE) months from the date of delivery**. The warranty includes repairs or replacements of any faulty parts due to manufacturing processes or installation after written communication has been received, stating the appliance serial number and date of installation. Not included in the warranty:

- Incorrect use of the appliance.
- Incorrect connection to the power grid.
- Normal wear of the components (such as breakage of the compressors, of the neon / LED lights, etc.) unless due to manufacturing defects.
- Calls for installation, technical instructions, adjustments, condenser cleaning.

If the seller's technical staff detect any tampering, unauthorised repairs or inappropriate use of the appliance, the warranty will be invalidated.

Shipment of components covered by the warranty is freight collect only.

Any damage to the appliance detected at the time of delivery due to transport must be reported on the same shipping note to claim compensation from the carrier.

The seller cannot be held liable in the event of damage to accepted products due to appliance faults.

## 4. EQUIPMENT IDENTIFICATION

- Find the label affixed to the machine in order to read the technical data.
- Check the machine model and the power supply voltage before you perform any operations.
- If you find discrepancies, contact the manufacturer or the company that supplied the machine immediately.

1		2	
Tip. 3		Mod. 4	
Art. 5			
Data prod. - Prod. Date 6	Ordine prod. - Prod. Order 7	Ord. cliente - Cust. Order 8	Classe Prodotto - Product Class (En23953) 9
Matricola - Serial Number 10		Matr. di Proprietà - Property Number 11	
12 V~ 13 Hz		14 A	15 W 16 W
Potenza nominale - Rated Power 17 W	Potenza in Sbrinam. - Defrosting Power 18 W	Psig min 19	Psig max 20
		Classe Sicur. - Safety Class (EN 60335-2-89) 21	
Corrente nominale - Rated Current 22 A	Corrente in Sbrinam. - Defrosting Current 23 A	Carico rip. - Shelf load 24 Kg/m2	Carico vasca - Tank load 25 Kg/m2
Tipo Refrigerante Refrigerant Type 1		Volume Lordo - Gross Volume 28 L	
2		Espandente - Foaming Agent 29	
3		30	
CONTIENE GAS FLUORURATI AD EFFETTO SERRA DISCIPLINATI DAL PROTOCOLLO DI KYOTO; SISTEMA ERMETICAMENTE SIGILLATO CONTAINS FLUORINATED GREENHOUSE GASES COVERED BY THE KYOTO PROTOCOL; SYSTEM HERMETICALLY SEALED			

1	IDENTIFICATION OF THE COMPANY RESPONSIBLE FOR THE PRODUCT
2	SYMBOLS OF COMPLIANCE
3	TYPE
4	MODEL NAME
5	ARTICLE
6	PRODUCTION DATE
7	PRODUCTION ORDER
8	CUSTOMER ORDER
9	PRODUCT CLASS
10	SERIAL NO.
11	OWNER REGISTRATION NUMBER
12	POWER SUPPLY VOLTAGE
13	SUPPLY FREQUENCY
14	FUSE VALUE
15	LAMP POWER
16	ELECTRICAL RESISTOR ABSORPTION
17	NOMINAL POWER (NORMAL OPERATION)
18	POWER (DEFROSTING)
19	MINIMUM PRESSURE
20	MAXIMUM PRESSURE
21	SAFETY CLASS
22	RATED CURRENT
23	CURRENT DURING DEFROSTING
24	SHELF LOAD
25	TANK LOAD
26	TYPE OF COOLANT
27	WEIGHT OF COOLANT
28	GROSS VOLUME
29	EXPANDING INSULATION AGENT
30	WEEE MARK

## 5. COMPOSITION

The appliance is made up of a single cabinet, on which are installed all the devices necessary to make it a professional and efficient product for its declared use.

The appliance consist of:

Ventilated refrigeration unit	RV models
Ventilated static refrigeration unit	RS models
On board condensing units	
Electrical system	
Electronic command panel	
Insulated monolithic structure in ecological polyurethane	
LED lighting	
Closure with glass hinged door	
Height-adjustable display shelves	RV models
Fixed evaporating display shelves	RS models
Swivel casters with brakes	

## 6. USE

This appliance is exclusively intended for:

RV TN	Pâtisserie - Fresh products
RV CH	Praline and Chocolate Products
RS TB	Parfaits, pre-packaged ice-creams and Frozen cakes
RV TB	Parfaits, pre-packaged ice-creams and Frozen cakes

The manufacturer is not liable for injury to persons or damage to property or the appliance itself caused by the displaying of products other than those described above.



### THE APPLIANCE IS INTENDED FOR PROFESSIONAL USE

#### Not suitable for

- Food preservation.
- Displaying and/or preserving of non-food products (chemicals, pharmaceuticals, etc.).

## 7. LOAD LIMITS



### ATTENTION

It is fundamental **not to exceed the load limits indicated** in order not to alter the correct air circulation and thus to prevent a higher product temperature. The limits indicated refer to a static and evenly distributed load. Therefore dynamic overloads due to violent loading operations are excluded, which must be prevented for safety reasons.



## 8. SAFETY

The appliance is equipped with safety devices. The buyer is responsible for training personnel using the appliance on the risks, safety devices and general health and safety rules required by the laws of the country where the appliance is installed. Users/operators should be aware of the position of all the controls and how they work, as well as of the features of the appliance. They must also have read this manual in its entirety.

### 8.1 SAFETY DEVICES INSTALLED

Devices whose operation prevents the occurrence of risk situations in operating conditions (e.g. fuses, pressure switches, protections, magnet circuit breakers, etc.).

### 8.2 FIXED GUARDS

Fixed protective devices consist of fixed perimeter shields, which are used to prevent external parts from entering the equipment.



#### **DANGER**

The appliance must not be restarted following maintenance until all protective panels have been replaced.



#### **VISUAL OBSERVATION**

You should check the integrity of fixed panels and corresponding fixings to the frame, focussing in particular on the protective panels.

### 8.3 ISOLATING THE ELECTRICAL POWER SUPPLY

Before conducting any maintenance work on the equipment or its parts, it is necessary to section the power supply that powers it.



#### **DANGER**

In the event of maintenance operations where the operator cannot prevent accidental closure of the circuit by others, completely disconnect the appliance from the mains electricity.

### 8.4 CIRCUIT FAULTS

Owing to potential faults, safety circuits may become less effective, which results in lower safety levels. You should check the operational condition of the appliance devices regularly.

### 8.5 WARNING PLATES (IF PRESENT)

The appliance is fitted with warning danger, warning and obligation signs defined in agreement with the Standard relative to the graphical signs to be used on equipment. These signs are located where they are clearly visible.



#### **ATTENTION**

Any warning plates on the appliance must not be removed.

The user is responsible for replacing warning signs that, owing to wear, become unreadable.

### 8.6 FALLING OF OBJECTS

The positioning of the display cabinet (where present) of the equipment (i.e. counters, rods and hooks, etc.) as well as the arrangement of the products inside the cabinet can be a source of potential hazards if not properly performed. Follow the positioning instructions described in this Manual; before placing products inside the cabinet, check that the counters are properly fastened, as also the hooks, etc. Do not exceed the maximum load limit. Do not position products on tilted counters if they are not held in place by their stoppers.

### 8.7 COLD

During the various operations to be performed on the counter, such as cleaning or the loading of goods, it is necessary to handle products and/or counter parts at a low temperature with the subsequent risk of "cold injury" for operators and/or accidental slipping hazard. Follow the safety regulations in the place where the cabinet is installed; more specifically, be sure to always use correct PPE (especially gloves).

### 8.8 FOOD SAFETY (PACKAGED PRODUCTS)

During displaying of packaged products there must be no direct contact between the food products and the display surfaces, however in the event of accidental breakage of the packaging of a product for a sufficiently prolonged period, contamination of the product itself may occur; in this case, strictly follow the instructions for use of the appliance (remove the packaging damaged by exposure and clean using specific products).

## 9. RESIDUAL RISKS

During design the manufacturer examined all the areas or parts at risk. Therefore, all necessary precautions have been taken to prevent risks to persons and damage to the appliance.



### ATTENTION

- Periodically check that all the safety devices are working properly.
- Do not remove the fixed guards.
- Do not introduce unauthorised objects or tools into the work area.

Although the appliance is fitted with the safety devices, there are still some risks that cannot be eliminated, but reduced via corrective action by the final user and correct operational procedures.

Below is a summary of the remaining risks associated with the appliance during:

- Normal operation.
- Setting and fine tuning.
- Maintenance.
- Cleaning.

### 9.1 RISKS OF CONTACT WITH LIVE PARTS

Risk of breaking or damaging the electrical components of the appliance, with a possible reduction in safety levels following a short circuit.

Before connecting the electricity supply, make sure there is no ongoing maintenance work.



### ATTENTION

Before carrying out the connection, check that the d.c. current in the installation point does not exceed the value indicated on the protections switches present in the electric control board. If this is not the case, the user must provide the relevant limiting devices. It is strictly forbidden to conduct any electrical modification, in order to prevent additional unforeseen hazards and risks.

### 9.2 FIRE



### DANGER

In the event of a fire, immediately disconnect the master switch from the main power supply line.

### 9.3 EXPLOSIVE ATMOSPHERE

The equipment must not be located in an area classified as an explosion risk 1999/92/EC such as:

#### Zone 0

An area in which there is a permanent, long-lasting or frequently explosive atmosphere made up of a mixture of air and flammable substances in the form of gases, fumes or steam.

#### Zone 1

An area in which the formation of an explosive atmosphere, made up of a mixture of air and flammable substances in the form of gases, fumes or steam is occasionally probable during normal activities.

#### Zone 20

An area in which there is a permanent, long-lasting or frequently explosive atmosphere in the form of clouds of combustible dust in the air.

#### Zone 21

An area in which the formation of an explosive atmosphere in the form of clouds of combustible dust is occasionally probable during normal activities.

### 9.4 SLIPPING



### DANGER

Any leaks in the areas surrounding the appliance may cause personnel to slip. Check that there are no leaks and keep these areas clean at all times.

### 9.5 TRIPPING



### DANGER

Generally, untidy deposits of material may constitute a tripping hazard and a total or partial obstruction of emergency exit routes. You should ensure that operating and transit areas and escape routes are free from obstacles in compliance with current law.

## 10. DISPOSAL OF WASTE MATERIAL

During normal operation, the appliance does not generate any environmental contamination. At the end of its life cycle, or if it is necessary to carry out permanent decommissioning, we recommend the following procedures:

### DISPOSAL (USER)



The symbol, applied to either the product or its packaging, indicates that the product should not be considered as normal domestic waste, but should be taken to a waste collection point for the recycling of electrical and electronic appliances. The correct disposal of this product contributes to preventing potential negative consequences that might derive from an inadequate disposal of the product. For detailed information about recycling this product, contact your council, your local waste collection service or the store where you purchased the product.

### PROCEDURE FOR DISPOSAL and RECYCLING AT THE END OF APPLIANCE LIFE SPAN OF THE EQUIPMENT (AUTHORISED BODIES)

- Switch off the equipment and unplug the power supply cable.
- Remove the lamps (if installed). These should be disposed of separately.
- Remove the power units and the electronic cards. These should be disposed of separately.
- Remove all the independent parts (grids, casings, profiles, etc.) and group them according to shared features in order to access the heat exchangers, pipes, cables, etc. and be careful not to damage the cooling circuit.
- Remove all mobile parts (doors, sliding doors, glass parts, etc.) and group the various materials according to their features.
- Check the type of refrigerant on the plate positioned inside the counter; extract the refrigerant and dispose of it through authorised services.
- Disconnect the evaporator, condenser, compressor, pipes and fans. These are made of copper, aluminium, steel and plastic and should therefore be disposed of separately.
- On removal of all guards and the various components from the frame, separate the different types of material making up the appliance (plastic, sheet steel, polyurethane, copper, etc.) and collect them separately.



All recyclable materials and waste should be processed and recycled by professionals, in compliance with the laws in the country in question. The company responsible for recycling the materials should be registered and certified as a waste disposal service in accordance with the country in question.



#### ATTENTION

Illegal disposal of the product by the owner will result in administrative sanctions as required by current laws. Disposal of the product should comply with current laws on the disposal of coolant liquids and mineral oils.



#### IMPORTANT

If the crossed wheeled bin sign is not present on the appliance, it means that the disposal of the product is not the manufacturer's responsibility. In these cases, current waste disposal regulations apply. Refer to the local authorities, waste disposal services or the store from where the product was purchased.



#### ADDITIONAL INFORMATION

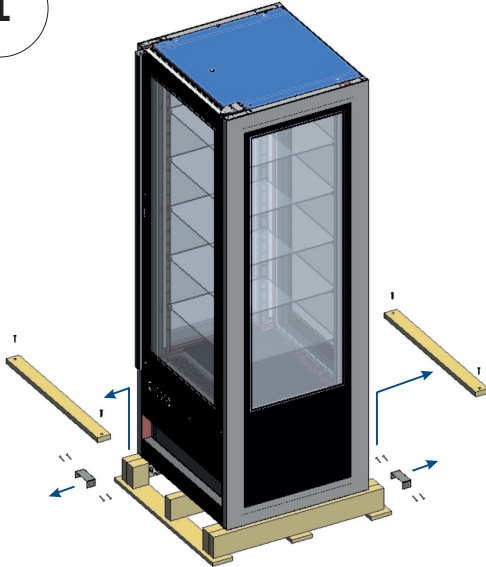
Further information on the disposal of liquid coolant, oils and other substances is available on the safety data sheet corresponding to the substance itself. In order to dispose of foamed assemblies, remember that the polyurethane foams used are CFC, HFC and HCFC free.

## 11. INSTALLATION

### 11.1 UNPACKING

All packaging materials are recyclable and should be disposed of in accordance with local regulations. All packaging materials are recyclable and should be disposed of in accordance with local regulations. Please destroy "plastic" bags to prevent them from becoming hazardous to children (suffocation).

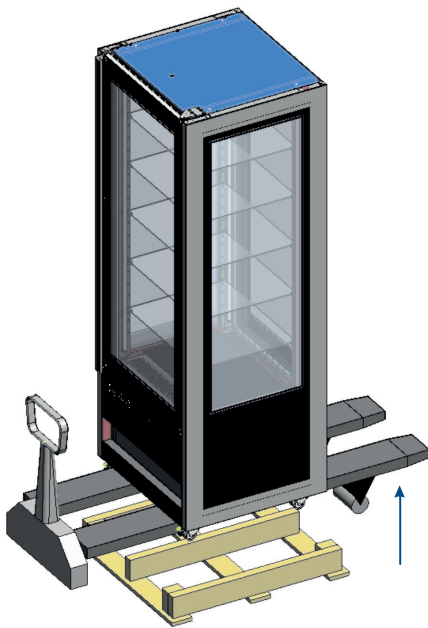
1



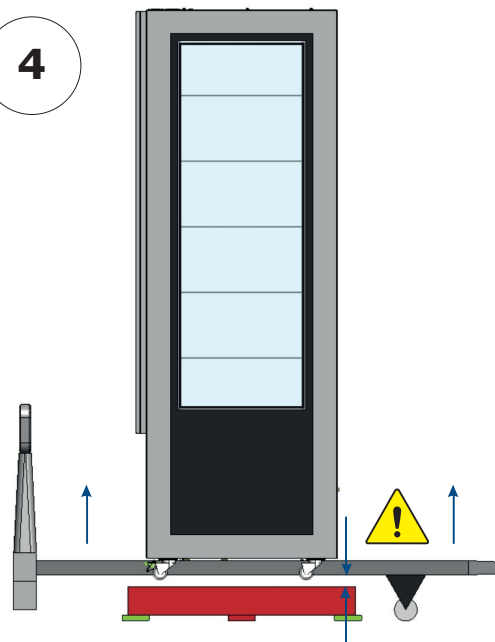
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3



4

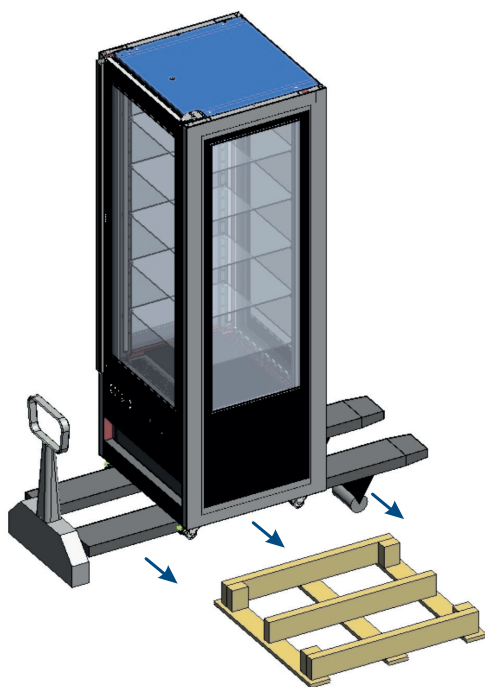


#### Attention

Lift the equipment from the pallet until the wheels have been completely released.

## 11.1 UNPACKING

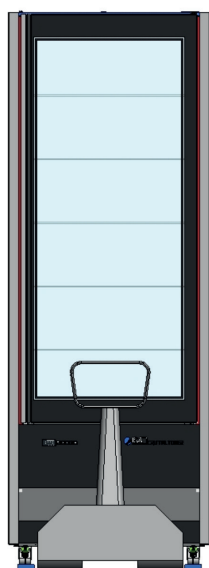
5



6



7

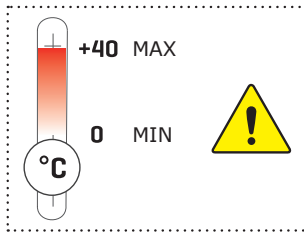


8



## 11.2 STORAGE

The appliance, with or without its packaging, should be carefully stored inside warehouses or in areas protected from the weather and from direct sunlight, at a temperature between **0** and **+40 °C**.



## 11.3 HANDLING



The apparatus should only be handled using a fork lift truck of a sufficient capacity for its weight, and operated by qualified personnel: during such operations, the apparatus must be positioned on the pallet supplied

## 11.4 ENVIRONMENTAL CONDITIONS



### ATTENTION

A dry room that can be ventilated is the suitable location for the appliance's installation. There should be a good air flow around the compressor/condensing unit. Therefore the area around the unit should not be obstructed by boxes or other objects. Place the equipment away from sources of heat (radiators, heaters of any kind, etc.) and far from the influence of continuous air movement (caused by fans, air conditioning units, etc.). If it is unavoidable to install near a heat source, use a suitable insulating plate. Also avoid exposure to direct solar irradiation; all of this causes the temperature inside the refrigerated compartment to rise with negative consequences on operation and energy consumption. The apparatus must not be used outside nor be exposed to rain.

## 11.5 ELECTRICAL CONNECTION



### ATTENTION

Check that the network voltage matches the one displayed on the identification plate of the appliance, and that the power is adequate. Check on the socket that the power supply voltage provides rated voltage ( $\pm 10\%$ ) when you start up the compressor. The plug should be directly connected to the electrical socket. It is forbidden to connect the plug to the socket by means of multiple socket extensions or adaptors. The plant power supply socket must be fitted with a disconnection device from the mains electricity (dimensioned to the load and in compliance with Standards in force), which guarantees complete disconnection in category III (3) over-voltage conditions and therefore protects the circuits against earth faults, overloads and short circuits. Do not route the electricity cable in passageways.

### ATTENTION



Earthing is necessary and **mandatory** by law.

## 11.6 CONDENSATION PHENOMENON



### ATTENTION

The walls, the door and the shelves are made of glass. These components may be prone to condensation during and immediately after door opening. This phenomenon can last a few minutes depending on the environmental conditions and on the period/frequency of door opening. In the version with automatic defrosting (ventilated versions) condensation may also occur during and/or immediately after defrosting for a period of approximately 10 minutes.

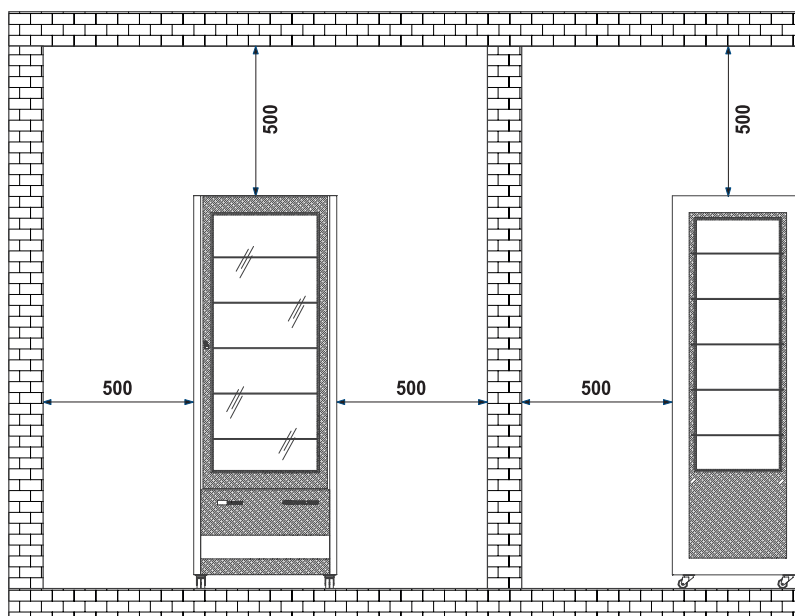


## 11.7 WALL MOUNTING



### ATTENTION

It is fundamental to respect the distances indicated (mm) for correct installation of the appliance.

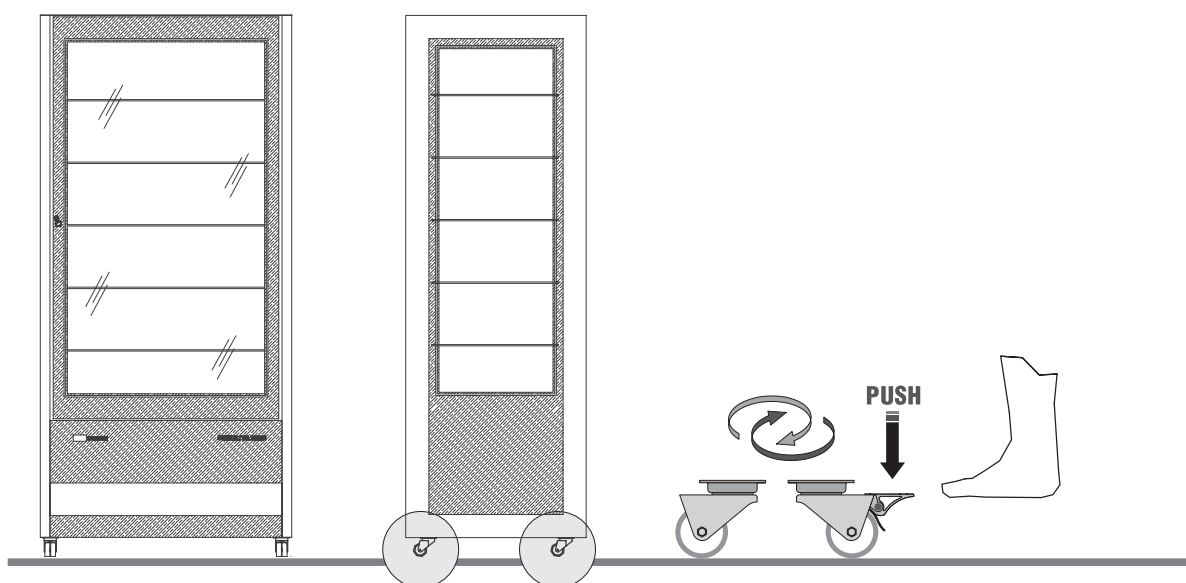


## 11.8 POSITIONING



### ATTENTION

The appliance has four (4) swivelling drive wheels (two with brake) to facilitate handling. After positioning it is **absolutely essential** to stabilise the appliance on the ground.



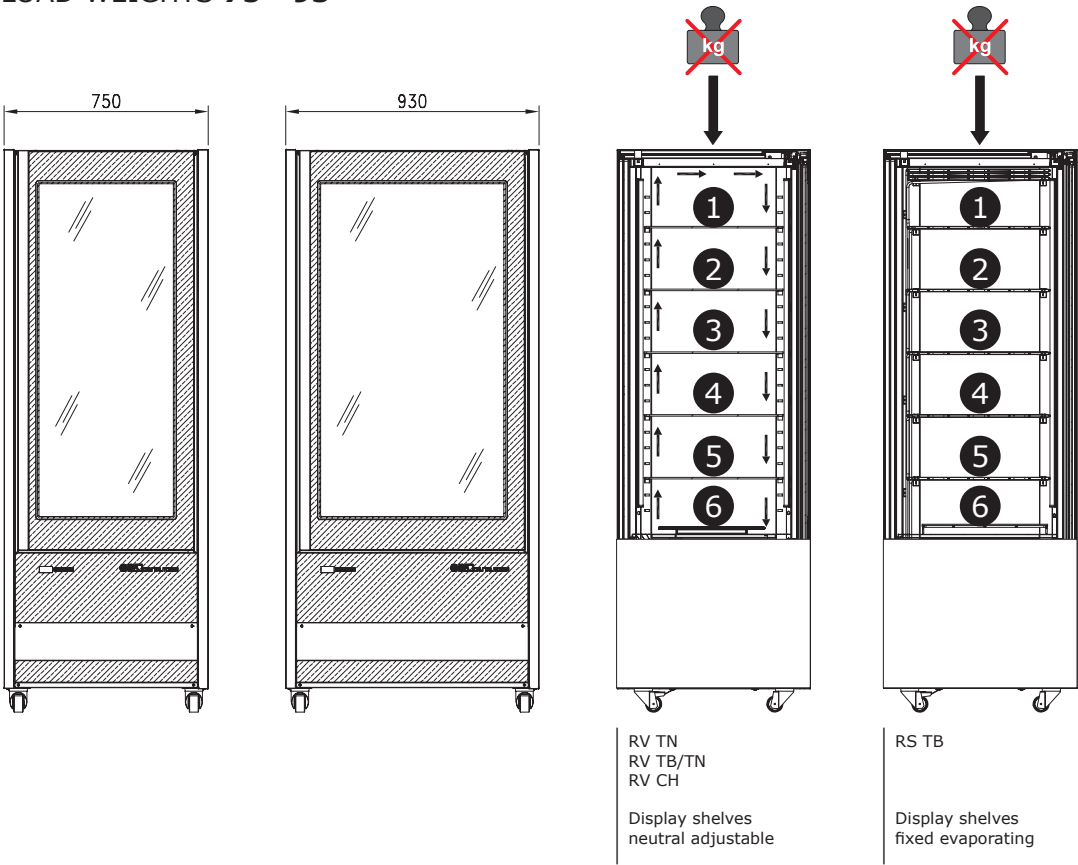
11.9 LOAD WEIGHTS

ATTENTION



It is **strictly necessary** to respect the **maximum indicated weights**.

11.9.1 LOAD WEIGHTS 75 - 93



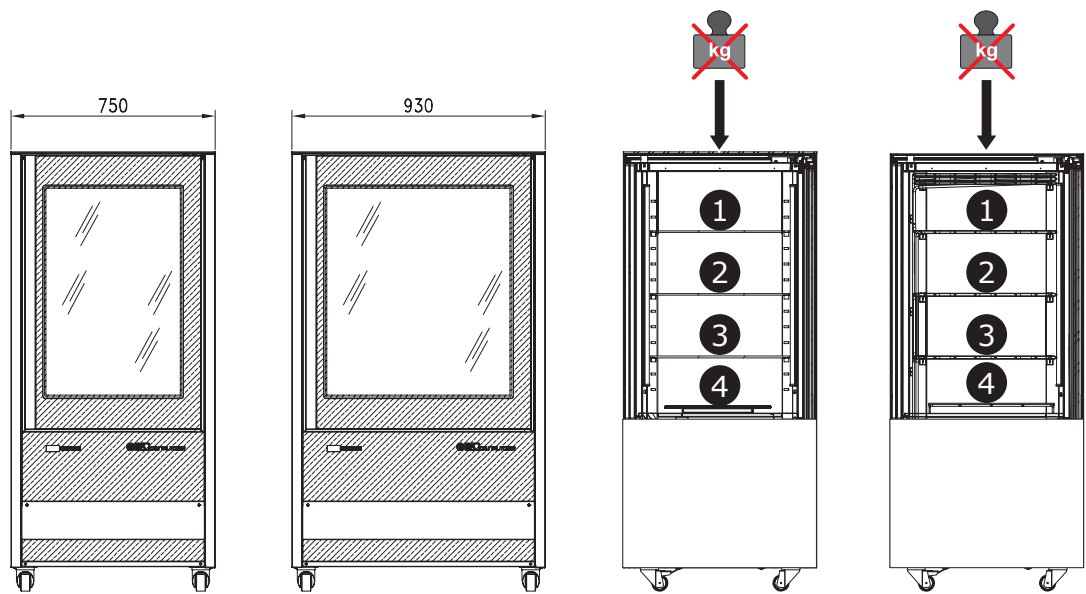
75

No.	RV TN RV TB/TN RV CH	RS TB
1	25	32
2	25	32
3	25	32
4	25	32
5	25	32
6 (optional)	25	32

93

No.	RV TN RV TB/TN RV CH	RS TB
1	34	43
2	34	43
3	34	43
4	34	43
5	34	43
6 (optional)	34	43

11.9.2 LOAD WEIGHTS model **75 LH - 93 LH**



**75 LH**

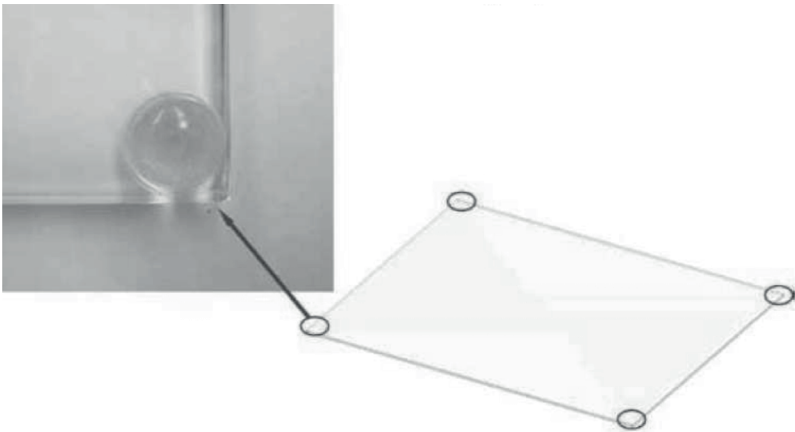
No.	RV TN RV TB/TN RV CH	RS TB
1	25	32
2	25	32
3	25	32
4 (optional)	25	32

**93 LH**

No.	RV TN RV TB/TN RV CH	RS TB
1	34	43
2	34	43
3	34	43
4 (optional)	34	43


**11.10 GLASS SHELVES (OPTIONAL)**

Position and apply the suction cups at the four ends of the shelf as shown.



## 12. MAINTENANCE

The **Staff in charge of the appliance** must control and respect the maintenance schedule given in the table below, contacting the authorised **Technical After-sales assistance** when indicated.

OPERATION	FREQUENCY				PERSONNEL AUTHORISED
	Depending on Use and Necessity	Monthly	Every 6 months	Annual	
CLEAN THE EXTERNAL SURFACES	X				USER
CLEAN THE ACCESSIBLE INTERNAL PARTS (without the use of tools)	X				
CHECK THE POWER SUPPLY CABLE, PLUGS AND / OR ELECTRICAL SOCKETS			X		
CHECK THE INTEGRITY OF THE SEALS		X			
CLEAN THE CONDENSING UNIT FILTER (whenever present)			X		
CLEAN THE DEFROSTING WATER COLLECTION TRAY	X				TECHNICAL ASSISTANCE 
CONDENSER CLEANING	X			X	
CHECK COMPRESSOR OIL LEVEL (whenever present)				X	
AIR TANK DRAINING (whenever present)			X		
CONTROL PNEUMATIC CONNECTIONS (whenever present)			X		
CHECK THE INTEGRITY OF THE COOLING SYSTEM PIPES			X		
INSPECT THE CABLES AND INTERNAL POWER CONNECTIONS			X		
CLEAN THE CONDENSATE DRYING SPONGES (whenever present)			X		
LAMP / LED REPLACEMENT (whenever present)					
REPLACE THE CONTROL PANEL (electronic control unit - thermostat - etc.)					
REPLACE THE POWER SUPPLY CABLE, PLUGS AND/OR ELECTRICAL SOCKETS					

### ATTENTION



After all maintenance it is **mandatory** to perform all electrical safety tests in accordance with the IEC EN 50106 Standard.


## 13. FAULTS - TECHNICAL AFTER-SALES ASSISTANCE

If the appliance is not working properly or stops working, **before contacting** the **Customer Support Centre** check the following:

### THE APPLIANCE IS NOT WORKING

CAUSE	SOLUTION	PERSONNEL AUTHORISED
Blown protective fuse	First find the cause of the trip of the switch, and then replace the new fuse.	USER
The master switch is open	Close the master switch.	
The plug is not inserted	Insert the plug.	
Electrical black-out	If the black-out should be prolonged, transfer the product into an appropriate cold storage container.	

### THE TEMPERATURE IS NOT LOW ENOUGH

CAUSE	SOLUTION	PERSONNEL AUTHORISED
Evaporator/s obstructed completely by ice	Carry out an additional defrosting cycle.	USER
Wrong temperature setting	Set the appropriate temperature.	
The appliance is affected by draughts or is exposed to direct or reflected sunlight	Remove any draughts and prevent any direct or reflected sunlight.	
Insufficient air flow for cooling to the condenser	Remove anything which could obstruct the circulation of air through the condenser (sheets of paper, cardboard, insufficient slots in grille, etc.).	
Internal fans at standstill or with fans damage		TECHNICAL ASSISTANCE
Internal ventilation is too high		
Thermostat / Electronic control board not efficient	Replace the thermostat/electronic control board. If the electronic control board is used on appliances with R290 coolant, it must only be replaced with an original spare part supplied by the manufacturer. Replace the temperature probes only after checking which of the two is not operating efficiently.	
Condenser unit blocked by dust or dirt in general	Clean the condensing unit thoroughly. In particular operating environments (e.g. presence of dust, presence of excessive humidity, etc.) when the performance of the equipment deteriorates, the condenser requires careful cleaning.	
Insufficient refrigerant load in the cooling system	Find the cause of the loss of coolant and eliminate it. Top up the coolant. If necessary, empty the system before topping up.	

### THE COMPRESSOR DOES NOT WORK OR FUNCTIONS FOR SHORT PERIODS OF TIME

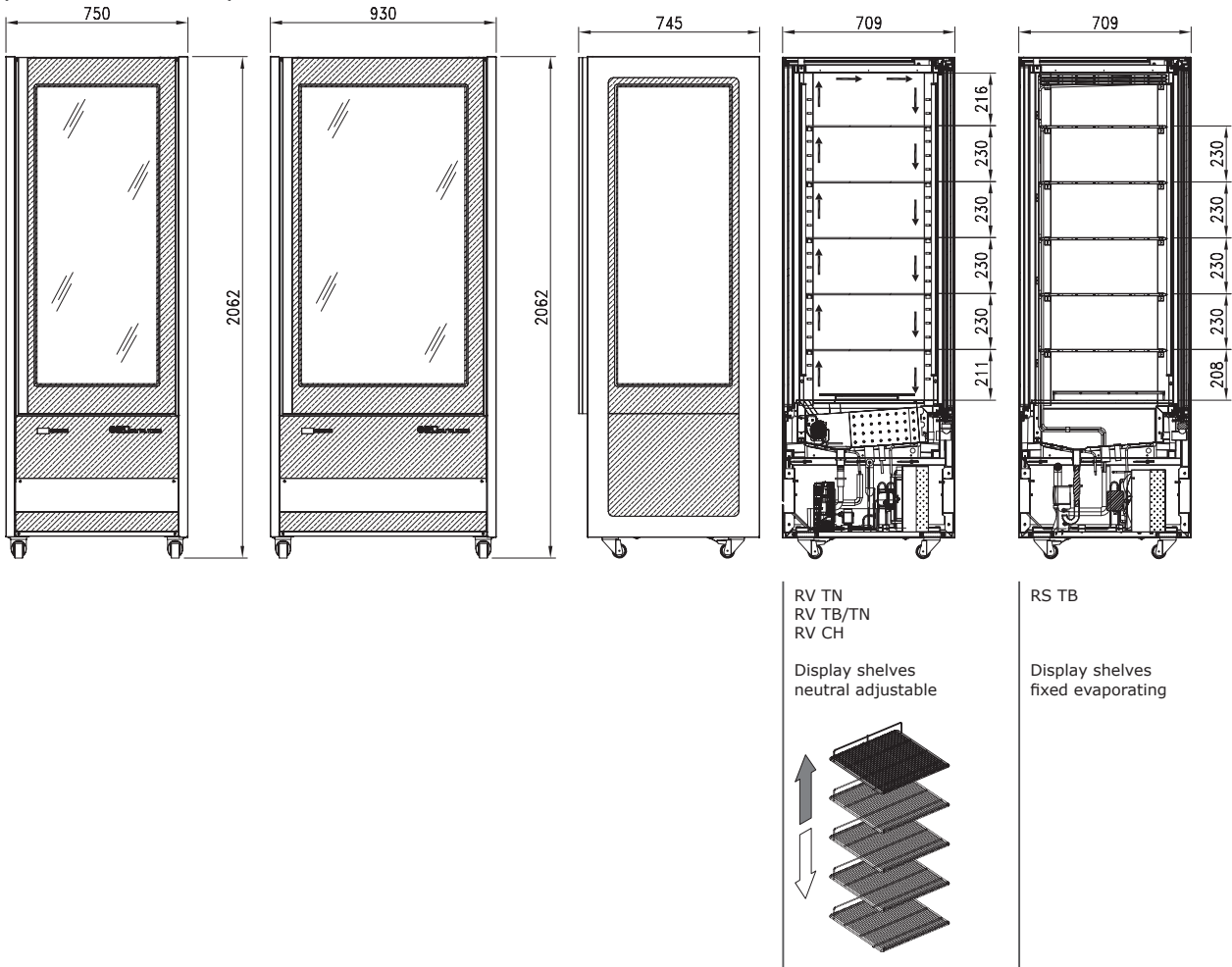
CAUSE	SOLUTION	PERSONNEL AUTHORISED
No electric power supply to the appliance	Check if there is a power cut. Close the various switches on the power supply line.	USER
Excessively low power voltage	Check that the network voltage of the power supply cable is of a rated value of 220V +/- 10%.	
Temperature set too high	If the temperature is higher than the air temperature in the display chamber, the compressor will not start. Set the suited temperature if the current temperature is not low enough.	
Intervention of the maximum pressure switch (where present)	Check the reasons why the pressure switch is operating at maximum pressure levels, such as: air condenser obstructed, condenser fan with air stopped, ambient temperature too high, pressure switch defective.	TECHNICAL ASSISTANCE

14. TECHNICAL SPECIFICATIONS

75 - 93

RV TN  
RV TB/TN  
RV CH

RS TB



Model				RV			RS
				TN	TB/TN	CH	TB
External dimensions	Length	75	mm	750			
		93	mm	930			
	Depth		mm	745			
	Height		mm	2062			
Weight (net)		75	Kg	288			
		93	Kg	310			

RV: VENTILATED REFRIGERATION

TN: NORMAL TEMPERATURE

TB: LOW TEMPERATURE

CH: CHOCOLATE

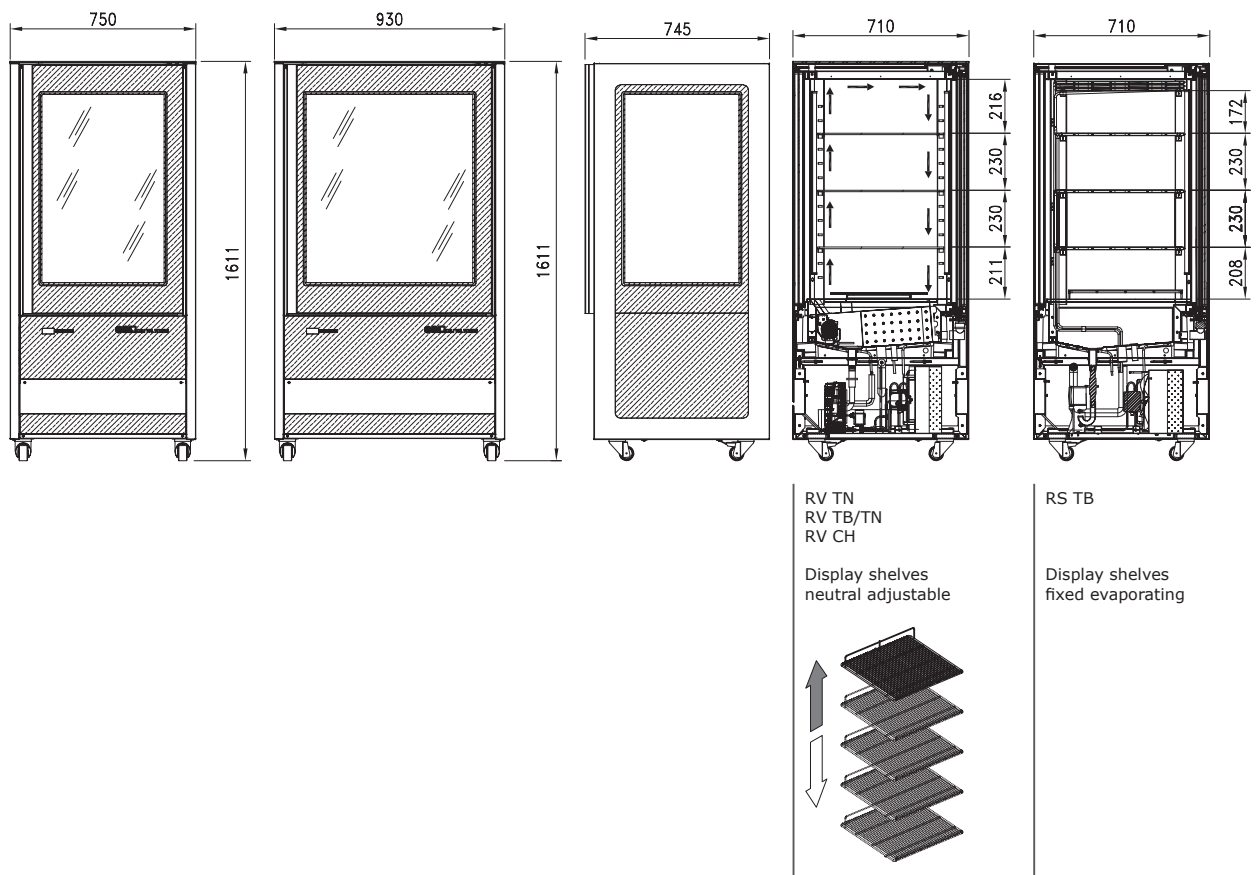
RS: STATIC REFRIGERATION

# 14. TECHNICAL SPECIFICATIONS

## 75 LH - 93 LH

RV TN  
RV TB/TN  
RV CH

RS TB



Model				RV			RS
				TN	TB/TN	CH	TB
External dimensions	Length	75	mm	750			
		93	mm	930			
	Depth		mm	745			
	Height		mm	1611			
Weight (net)		75	Kg	195			
		93	Kg	212			

RV: VENTILATED REFRIGERATION

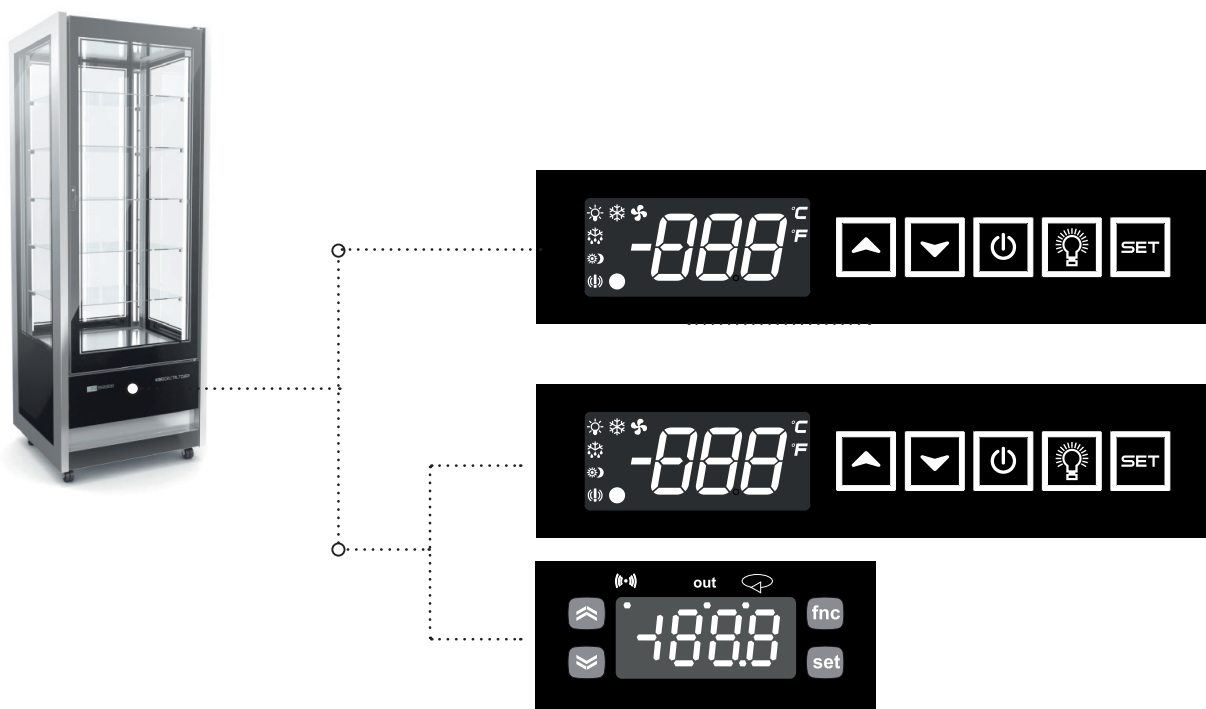
TN: NORMAL TEMPERATURE

TB: LOW TEMPERATURE

CH: CHOCOLATE

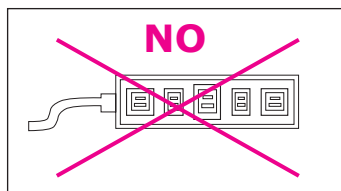
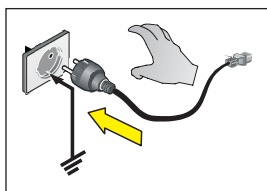
RS: STATIC REFRIGERATION

## 15. CONTROL PANEL



### START-UP (ON)

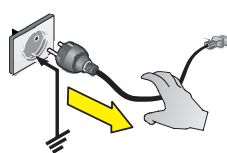
Activate the mains system master switch.  
Plug the appliance in the socket supplied by the customer, ensuring that the plug is fitted with an earth contact and that there are no multiple sockets connected to it.



**The appliance will start working automatically**

### SWITCH OFF (OFF)

Remove the power plug manually.



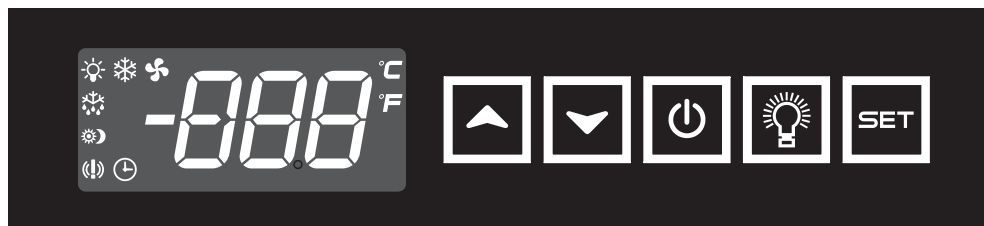
#### ATTENTION

The electronic control board is installed already programmed. Any changes to the control board settings can be carried out exclusively by qualified technical personnel.



## 15.1 USER INTERFACE

### XM470K TOUCH



#### KEYS



While programming, it scrolls through the parameter codes or increases their value.  
If pressed for 3 seconds it starts a manual defrost cycle.



While programming, it scrolls through the parameter codes or decreases their value.  
If pressed for 3 seconds it displays the current time and day and enables the entry into time band programming.



It turns the equipment on and off.



It turns the lights on and off (even with the equipment off).









To view or edit the set-point.  
In programming it selects a parameter or confirms a task.  
If pressed when the time is displayed, holiday times and days can be set.

15.1 USER INTERFACE









XM470K TOUCH



KEYS COMBINATION

	+		Pressed for 3 seconds they lock and/or release the keyboard. With active keypad lock the following operations are possible: <ul style="list-style-type: none"><li>- Changing of the SET POINT</li><li>- Acting on the lights</li><li>- Use of the ON / OFF button</li></ul>
	+		To enter the programming function.
	+		To exit the programming function.

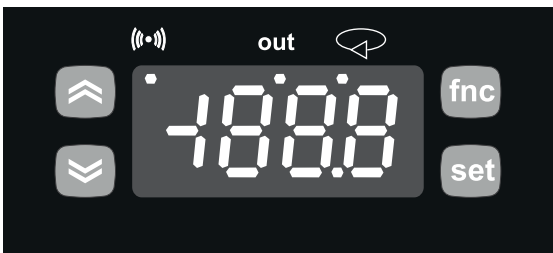
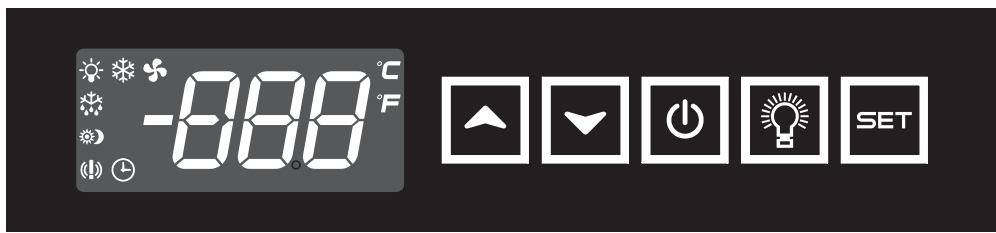
LED

	ON	Solenoid valve activated
	FLASHING	Programming phase (flashes with the LED  ). Anti-swing delay.
	ON	Ventilation operational
	FLASHING	Programming phase (flashes with the LED  ).
	ON	Defrosting active.
	FLASHING	Drip time in progress.
	ON	Energy saving in progress.
	ON	Lighting on.
	ON	Alarm signal. In programming <b>Pr2</b> it indicates that the parameter is also present in <b>Pr1</b> .

15.2 USER INTERFACE

XM470K TOUCH

IC 912 LX



KEYS (IC 912 LX)



It scrolls through the menu items.  
Increases the values.



It scrolls through the menu items.  
Decreases the values.



ESC function (output).



It accesses the set-point and the menus.  
It activates the functions.  
It confirms the commands.  
It displays any alarms.

LED (IC 912 LX)

out

ON for relay on (energised).  
Flashing due to delay, protection and activation blocked.



ON for active alarm.  
Flashing for silenced alarm.



ON for set-point reduced.  
Flashing for soft-start function active.

## 16. CLEANING

The materials listed below must be cleaned as follows:

<b>STAINLESS STEEL</b>	Only use warm water and non-aggressive detergents and then rinse and dry using a soft cloth.
<b>ACRYLIC OR POLYCARBONATE</b>	Wash with lukewarm water, using a soft cloth or a chamois cloth. Do not use abrasive cloths or sponges.
<b>CURVED GLASS</b>	Only use products specifically designed for cleaning glass. We do not recommend using tap water, which may leave calcium deposits on the surface of the glass.

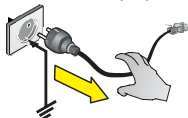
### 16.1 INTERNAL

#### ATTENTION



Do not scrape ice from the walls with pointed tools, the surface could be damaged.  
Do not use high pressure appliances (e.g. steam generators).

1. Remove the product contained in the refrigerated compartment and place it immediately in a suitable refrigerated container to ensure proper storage.
2. Turn off the equipment.



3. Remove the manually removable accessories (e.g. sliding doors, grills, ice cream containers, etc.).
4. Wait at least 4 to 6 hours, until the ice on the evaporator has melted completely, before proceeding with cleaning operations. We suggest in this regard, you wait for the next day to make sure that the defrosting is thoroughly completed. Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
5. Remove (if present) the drain plug at the bottom of the tank to drain the defrosted water. We recommend attaching a rubber tube or other suitable material in order to aid water drainage.
6. Clean the side panels and the bottom of the tank using a mild detergent, warm water and a non-abrasive cloth or sponge. Do not use sharp tools. Rinse thoroughly and dry with an absorbent cloth.
7. If the equipment is connected to a floor drain, run lukewarm water containing a sanitising solution suited to the specific application. In terms of quantity, the amount of solution used should be enough to remove any product residues and disinfect the whole drainage channel.
8. If the equipment is not joined to a floor drain, follow the procedure referred to above. The rinse water collected in the tank will be positioned inside the base of the apparatus. Proceed to also clean and disinfect the collection tray.
9. Fit the accessories that were removed (step 3).
10. Turn on the equipment and allow the counter to cool until it reaches the desired temperature before reintroducing foods.

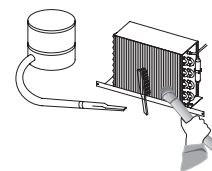
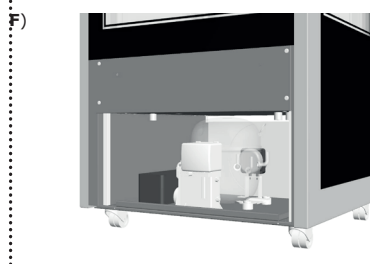
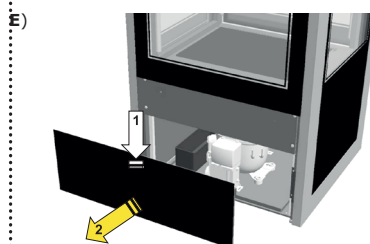
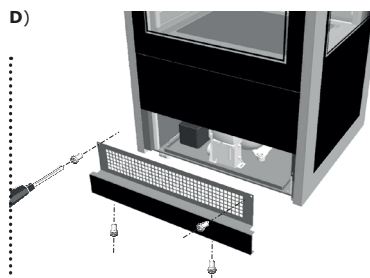
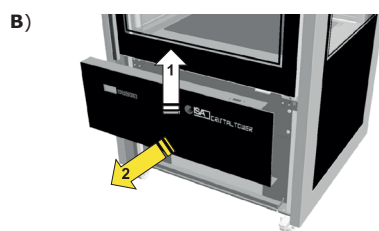
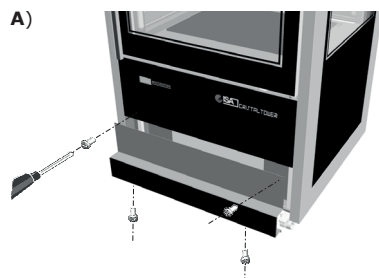
## 16.2 CONDENSING UNIT



Turn off the equipment, wait a few hours until the equipment of the condensing unit has reached a temperature near to ambient temperature.

Remove the protective grille as indicated.

Clean the condensing unit using a suction brush. Clean the condenser with a soft bristle brush; make sure you do not bend the condensing unit springs whilst cleaning it.

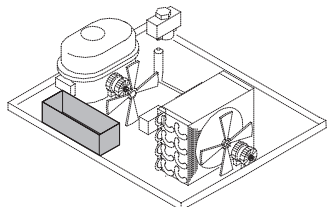


## 16.3 DEFROST WATER COLLECTION TRAY (IF PRESENT)



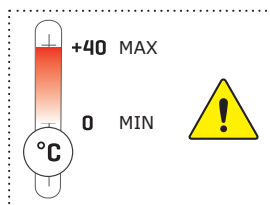
Clean according to use and requirement and in particular environmental conditions (e.g. high humidity, low ambient temperature, presence of dust, etc.) to avoid incorrect and complete evaporation of the water and/or the presence of unpleasant odours.

**Disinfect** the tray with suitable products.



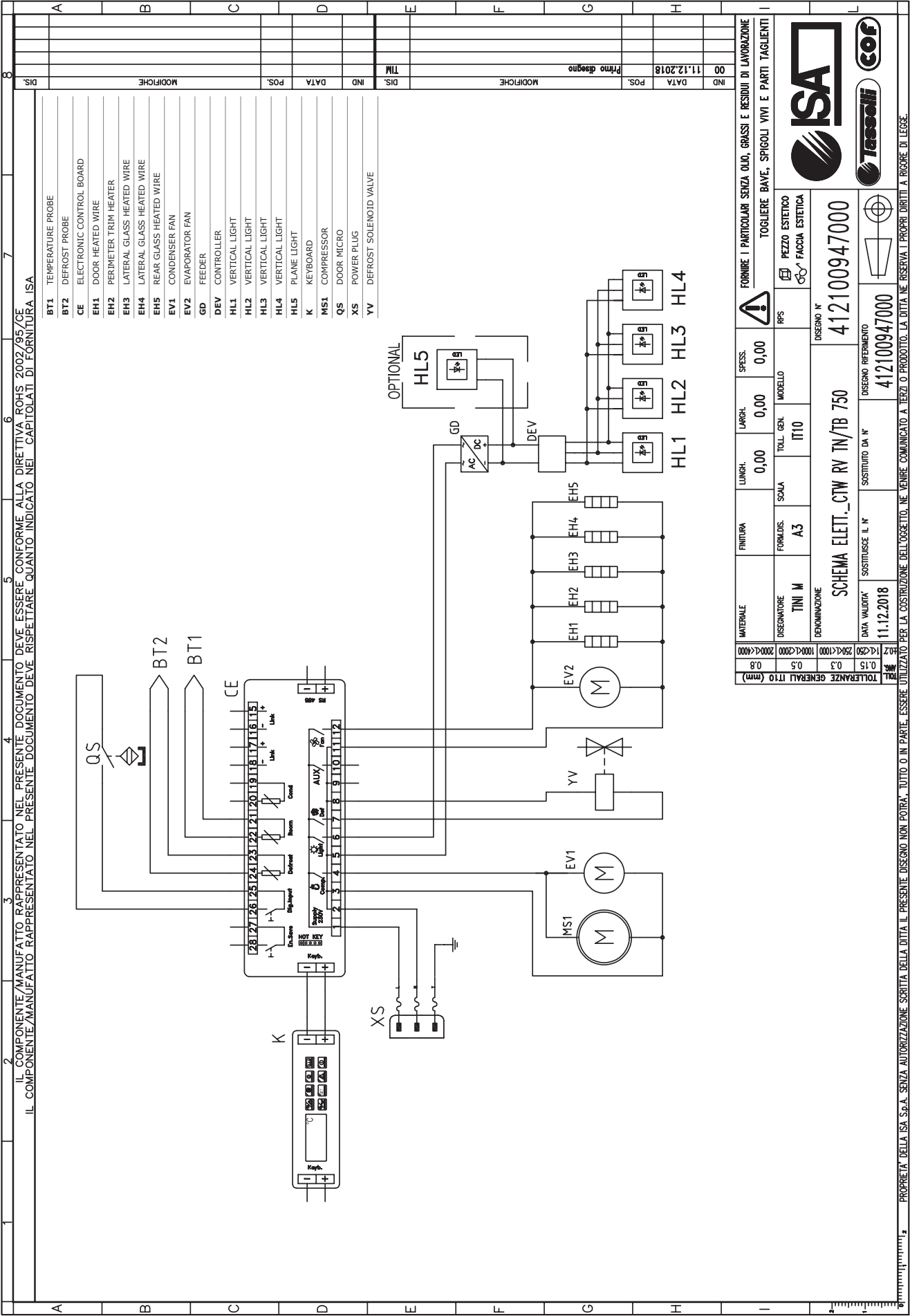
## 17. PROLONGED APPLIANCE SWITCH-OFF

- Remove the product contained in the refrigerated compartment and place it immediately in a suitable refrigerated container to ensure proper storage.
- Open the equipment and wait for it to reach room temperature and then clean it.
- Leave the door/sliding panels open by 2-3 cm so as to guarantee circulation of the air and prevent the formation of mould and bad smells inside the appliance.
- The equipment, whether equipped with its packaging or not, must be stored with care in the warehouse or in an area protected from the weather and from direct sunlight, at a temperature between **0** and **+40 °C**.



WIRING DIAGRAM

412100947000

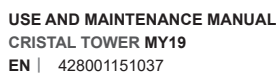


## 412100948000





412100949000



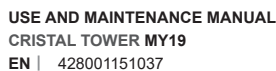
412100972000



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412100979000



412100980000



## 1. ILLUMINATION CONTROL MANAGEMENT

### Bluedimmer App



Download for free from **Apple Store** or from **Play Store**.

#### SYSTEM REQUIREMENTS:

- Devices with APPLE Operating System with Bluetooth Low Energy active version 4.1
- Devices with ANDROID Operating System with Bluetooth Low Energy active version 4.1

### 1.1 INSTALLATION OF APP ON THE DEVICE

Download and install the Bluedimmer application suitable for your operating system from:

#### Apple Store



#### Play Store



#### ATTENTION

From the version of Android 6.0 it is necessary to allow the Bluedimmer application to access its position.

## 1.2 APPLICATION SEQUENCE OF THE APPLICATION

The search for **DALCNET DLB1248 devices** takes place automatically.



**N.B.:**  
It is possible to perform the manual search by clicking on the lens positioned at the bottom of your device.



### Example of a completed search:

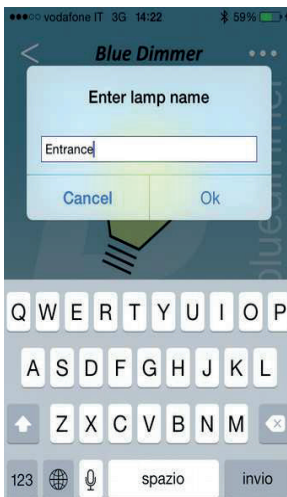
- Written in **Blue**:  
device paired and ready for use.
- Written in **Black**:  
device paired but not available.
- Written in **Grey**:  
device paired but not available.

### 1.3 PAIRING OF THE DEVICE WITH THE Bluedimmer APPLICATION

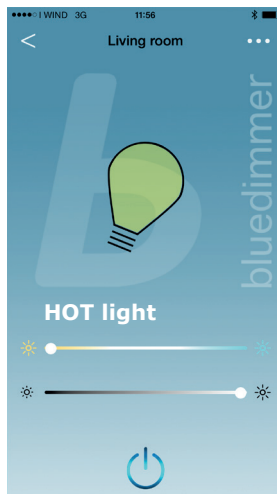
- 1.3.1 Select from the smartphone/tablet the device found; the LED strip or spotlight automatically switches on with reference to the selected device.



- 1.3.2 In the smartphone/tablet a window appears in which to name the light point controlled by the **DALCNET** device.



**Example:**  
appointing of '**Bench 01**' the light point located in the laboratory or '**Bench 02**' located in the winery in order to control in a simple but effective way the lighting of all the rooms in the store.



Return to the device search menu.



Light dimming.



On / Off.





