



Service & Installation Manual

REACH-IN

REFRIGERATORS AND FREEZERS



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1. GENERAL INFORMATION

Congratulations on your purchase. This product is designed and manufactured by Infrico, adhering to, and meeting the rigorous standards set forth by the company. Prior to shipment, each individual unit undergoes meticulous testing procedures to ensure compliance and deliver a product of exceptional quality.

We strongly recommend carefully reading and retaining this manual for future reference. The manufacturer cannot be held liable for any damages to individuals or property resulting from non-compliance with the instructions provided in this manual. To fully appreciate the numerous advantages of this product, we kindly urge you to thoroughly peruse this manual before proceeding with the installation. It is strongly advised that all users of this appliance familiarize themselves with the contents of this user manual.

Rest assured, this product has been manufactured under stringent quality control protocols and complies with all the requisites specified by Infrico. Prior to leaving the factory, each unit undergoes a battery of rigorous tests to guarantee superior quality and performance. Furthermore, this equipment is crafted using recyclable materials and employs an environmentally conscious production process, ensuring sustainability and reduced environmental impact.

To ensure optimal performance and longevity of the equipment, it is imperative to adhere to the provided instructions. These equipment items not only comply with the regulations 2014/30/EU and 2014/35/EU but also conform to the following standards: IEC EN 60335-1, IEC EN 60335-2 89, EN 61000-3-2, EN 61000-6-1, and EN 61000-6-3. By following these instructions meticulously, you can ensure the efficient operation and extended lifespan of the equipment.



WARNING! Use this unit only for its intended purpose as described in this manual.

2. SAFETY PRECAUTIONS



The use of electrical appliances involves the implementation of basic safety indicators, such as:

- This device is not intended to be used by individuals (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been supervised or instructed on the safe use of the device by a responsible person.
- This appliance must be properly positioned and installed following the recommendations provided in this manual prior to its installation.
- Children should be supervised to prevent them from playing with the appliance.
- For appliances intended to be used at altitudes higher than 2000m, the maximum permissible altitude of use should be indicated.
- **WARNING: Do not use electrical appliances inside food/ice storage compartments unless they are of a type recommended by the manufacturer.**
- This appliance cannot be installed in areas where explosive gas substances are present.
- Do not store explosive substances such as aerosol cans with flammable propellants in this appliance.
- **Keep all ventilation openings in the appliance's enclosure or built-in structure free from obstructions.**
- **Do not use mechanical devices or other means to accelerate the defrosting process that are not recommended by the manufacturer.**
- **Do not damage the refrigerant circuit.**
- **Do not use electrical appliances inside the compartments designated for food preservation unless they are of a type recommended by the manufacturer.**
- **To reduce the risk of flammability hazards, a qualified person should only conduct the installation of this appliance.**
- When cleaning the evaporator and/or condenser compartment, it is necessary to use hand protection such as gloves to prevent possible cuts or punctures from the internal components of the equipment.
- Do not allow children to manage the appliance, as they may cause damage to it or seriously harm themselves.
- Do not touch the cold surfaces of freezing appliances, as they may cause damage or serious harm to oneself.
- Do not touch the freezing surfaces as the skin may stick to them.
- Do not store or use flammable products near the appliance.
- Unplug the appliance before performing any cleaning, repair, or maintenance operations.
- Do not damage or tamper with the refrigeration circuit.
- Do not expose the refrigeration equipment to atmospheric agents.
- Do not store explosive substances, such as pressurized containers like aerosol cans with flammable propellants, in the refrigeration equipment.

- It is strictly prohibited to store pharmaceutical products, glass bottles, or jars inside the refrigeration unit.
- It is strictly prohibited to store pharmaceutical products, glass bottles, or jars inside the refrigeration unit.
- The protective grilles, especially the parts that provide access to the electrical panel of the equipment, should only be managed by qualified technical personnel.
- Before accessing the electrical terminals of the equipment, all power cables must be disconnected.
- The components of the refrigeration circuit may only be managed and/or repaired by qualified personnel. Before performing any internal manipulation of the equipment, disconnect it from the electrical power supply.
- The power cables must be properly extended, protected from impacts, and kept away from liquids, water, and heat sources. They should be in perfect condition. The use of multiple plugs is not allowed.
- In order to prevent risks, if the power cable(s) becomes damaged, they must be replaced by the manufacturer.
- Before connecting to the electrical power supply, verify that the supply voltage matches the one indicated on the equipment's identification plate. The power outlet must be suitable for the maximum power consumption. Proper grounding is essential.
- Grounding is essential, as well as protection against overcurrents, short circuits, and indirect contacts, in accordance with current regulations.
- Do not direct water sources or cleaning products directly onto the electrical components of the refrigerated display. Do not touch the refrigeration equipment with wet or damp hands or feet. Do not manipulate the refrigeration unit with bare feet.
- Qualified technical personnel can only install the refrigeration equipment.
- If the power cable is damaged, it must be replaced by the manufacturer, their after-sales service, or similarly qualified personnel in order to avoid any potential hazards.
- Any other use not specified in this manual will be considered dangerous. The manufacturer refuses any liability arising from improper, incorrect, or unreasonable use.

FOR MODELS WITH R290 REFRIGERANT / HYDROCARBONS

CAUTION: FIRE OR EXPLOSION HAZARD. FLAMMABLE REFRIGERANT. SHOULD ONLY BE REPAIRED BY A QUALIFIED TECHNICIAN. DO NOT PUNCTURE THE REFRIGERANT PIPE.

WARNING:

Do not use means to accelerate the defrosting process or for cleaning, other than those recommended by the manufacturer.

The appliance must be stored in a room without continuously operating ignition sources (e.g., open flames, a functioning gas appliance, or an operating electric heater).

Do not puncture or burn.

Please note that refrigerants may not have an odour.



DANGER - Risk of fire or explosion. Flammable refrigerant is used. Qualified technical personnel should only repair it. Do not puncture refrigerant tubes.



CAUTION - Risk of fire or explosion. Flammable refrigerant is used. Consult the repair manual before attempting to repair this product. All safety precautions must be followed.



CAUTION - Risk of fire or explosion. Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.



CAUTION - Keep all ventilation openings of the appliance equipment or built-in structure unobstructed.



CAUTION - Risk of fire or explosion due to puncturing the refrigerant tube; follow handling instructions carefully. Flammable refrigerant is used.

When using electrical appliances, basic safety precautions should be followed, including the following:

- This refrigerator must be properly installed and located in accordance with this manual before it is used.
- Do not allow children to climb, stand or hang on the shelves in the refrigerator. They could damage the refrigerator and seriously injure themselves.
- Do not touch the cold surfaces in freezer compartments when hands are damp or wet. Skin may stick to these extremely cold surfaces.
- Do not store or use flammable products near the refrigerator.
- Unplug the refrigerator before cleaning and making repairs.



NOTE: We strongly recommend that any servicing be performed by a qualified technician.

Competency of Qualified Service Personnel

Additional information is required for the usual procedures of installation, repair, maintenance, and dismantling of the refrigeration appliances when dealing with FLAMMABLE REFRIGERANTS.

Training on these procedures is provided by national training organizations or manufacturers accredited to deliver the relevant national competency standards as may be established in legislation.

The qualifications of service agents should be documented through licenses and certifications.

The Climate Class refers to the range of ambient temperatures in which the refrigerator operates optimally, and based on the climate type, each appliance requires a specific Climate Class.

CLIMATE CLASS OF THE TEST ROOM	TEMPERATURE	HUMIDITY
3	25°C	60%
4	30°C	55%
5	40°C	40%
7	35°C	75%

On our label, the rating plate specifies the Climate Class for which the appliance is designed, along with the corresponding optimal temperature and humidity range in parentheses. This information helps determine the suitable environmental conditions for the appliance's proper functioning.

Depending on the specific model and its particular options, it will be technically characterized by a different operating temperature and designed to preserve a specific type of product.

TEMPERATURE CLASS	APPLICATION TEMPERATURE	MAXIMUM TEMPERATURE OF THE HOTTEST PRODUCT	MINIMUM TEMPERATURE OF THE COLDEST PRODUCT
	[°C]	[°C]	[°C]
M0	0/1	+4	-1
M1	0/+2	+5	-1
M2	+2/+4	+7	-1
H2	+4/+8	+10	-1

It is important to emphasize the maintenance that needs to be performed as detailed on the section MAINTENANCE, CARE AND CLEANING of this manual.

It is advised to perform internal cleaning of the equipment at least once every three months, as a minimum requirement.

Additionally, regular cleaning of the seals (gaskets) should be emphasized as indicated on the section MAINTENANCE, CARE AND CLEANING.

3. SERIAL DATA PLATE

The serial data plate is a permanently affixed label which has important electrical and refrigeration data about your product, as well as the model and serial number. This label is located in the interior compartment on all standard models.

						MADE IN SPAIN	
		3000656456				MFG. DATE FECHA FAB. 02/18/2022	
CTRA. DE AGUILAR A A-318 POR MORILES KM 15.5 - A-3132 14900 LUCENA (CÓRDOBA) TELF. 0034 957 51 30 68		IRR-AN23					
SUPPLY ALIMENTATION	115	1	60Hz	TOTAL CASE AMPS TOTAL AMP	3.6	REFRIG.	R290
	VOLTAGE TENSION	PHASE PHASE	HRTZ HZ	AMPS AMP	QTY QTE	REF. AMOUNT QTÉ REFRIG	100,00 G
COMPRESSOR COMPRESSEUR	115 V	1	60 Hz	3,27 A	1	COMP. LRA	25 A
COND. FANS VENTIL. COND.	115 V	1	60 Hz	0,13 A	1	DESIGN PRESSURE	PRESSIONS DESIGN
EVAP. FANS VENTIL. EVAP	115 V	1	60 Hz	0,13 A	1	LOW BASSE	HIGH HAUTE
HEATERS RÉSIST.	115 V		LIGHTS ILLUMIN	115 V	0,02 A	9 BAR	17 BAR
MBCA	4 A	MOPA	20 A	BLOWING GAS GAS SOUFFLAGE	HFO	CLIMATIC CLASS CLASSE CLIMA	5(40°C,40HR)

CONFORMS TO UL STD 471 AND NSF STD 7. CERTIFIED TO CAN/CSA STD C22.2 N°. 120. THIS EQUIPMENT IS INTENDED FOR THE STORAGE AND DISPLAY OF PACKAGED PRODUCTS ONLY

4. RECEIVING AND INSPECTING THE EQUIPMENT

- All Infrico products are factory tested for performance and are free from defects when shipped.
- When your equipment arrives, you should carefully inspect the unit for damage during delivery.
- If damage is detected, you should save all the crating material and make note on the carrier's bill of lading describing the damage. A freight claim should be filled immediately.
- If damage is subsequently noted during or immediately after installation, contact our customer care service.



NOTE: Infrico is not responsible for damage incurred during shipment.

5. DAMAGES OCCURRED DURING TRANSPORTATION

When you receive your appliance, it should be carefully inspected for any damages that may have occurred during transportation. If any damage to the unit is detected, it is important to retain all packaging materials and note the damage on the carrier's Bill of Lading. A claim should be filed with the transportation company immediately.



NOTE: Infrico is not responsible for damages that occurs during transportation.

6. INSTALLATION

6.1. Location

This appliance is intended for indoor use only.

Ensure that the chosen location for your equipment has proper airflow to guarantee efficient cooling.

Avoid placing the equipment near sources of heat, such as ovens, fryers, stoves, as well as direct sunlight exposure where temperatures can reach extreme values.

This equipment is designed to operate in a conditioned environment that maintains a maximum ambient temperature of 30°C and a maximum relative humidity of 55% (Climate class 4, according to ISO 23953-2). The performance of this equipment may be negatively affected if operated in higher temperature and humidity conditions than that for which they have been designed.

Sufficient space should be provided between the equipment and the side walls to allow for a door opening angle of 120 degrees. The doors should be able to open a minimum of 90 degrees to utilize the maximum door width available.

The floor of the final location should be strong enough to support the total weight of the appliance, assuming it contains the maximum product load. Additionally, it should be level and free from vibrations. Reinforce the floor if necessary.

6.2. Shelf installation

All equipment is supplied with guides, brackets, and grids, except for IRR-AGB equipment, which have built-in guides and grids; pastry equipment, which are only supplied with guides; and fish equipment, which come with containers and guides. The brackets are easily removable for cleaning, and the guides can be adjusted to the desired height.

6.3. Uncrating

Reach-in cabinets are shipped on a wooden pallet in stretch wrapped material and a wood frame. First remove the plastic cover and then remove the screws on the wooden frame.

All packaging materials used are environmentally friendly and may be recycled or reused. Actively contribute to the protection of the environment by insisting on packaging recovery and removal methods that are environmentally friendly.



NOTE: Infrico does not recommend laying the unit down on its front, side or back. However, you must be certain to allow the unit to remain in an upright position afterwards for at least 24 hours before plugging it in so that the compressor oil and refrigerant may settle.

6.4. Storage

Do not store the equipment in outdoor areas exposed to weather conditions or direct sunlight. Avoid exposing the equipment to sunlight as it may cause deformation of plastic profiles.

Before storage, check the packaging of the equipment to ensure they are in proper condition.

6.5. Ventilation

To assure maximum operating efficiency, the equipment should be located where a continuous air supply can circulate around the cabinet.

It is recommended that the cabinet be installed no closer than 2" from any wall. In top mounted models, at least 12" of clear space above the unit is necessary (AGN and AGB). In AN models, to maintain a proper air flow, a minimum of 27" on the front of the unit must be provided.

Restricting the air supply will generate an excessive heat load on the condensing unit and adversely affect its operating efficiency. Do not at any time obstruct the grill area in the front of the cabinet in any way.



NOTE: Any restriction of the proper air flow, total or partial, will avoid the warranty on the unit.

To allow proper circulation of cold air inside, product must not be loaded outside the surface of the racks or, in any case, at least 2 cm (1 1/4") must be left between the product and the walls of the appliance. In height, at least 3 cm (1 3/4") must be left free below each shelf and at the top, the load limit sign must not be exceeded.

6.6. Levelling

It's extremely important that the cabinet is perfectly level for proper operation so that the drain pan will drain properly, the doors will line up with the frames and the unit will not be subject to undue strain.

These models are supplied with non-adjustable casters allowing easy cleaning of the floor under the unit. In this case, just ensure the floor where the unit is located is level. To operate in a stable condition, the front casters must be locked.

Adjustable legs in lieu of casters are supplied as an optional accessory for all our models. In case you install legs, you should adjust them until the unit is stable and completely level.

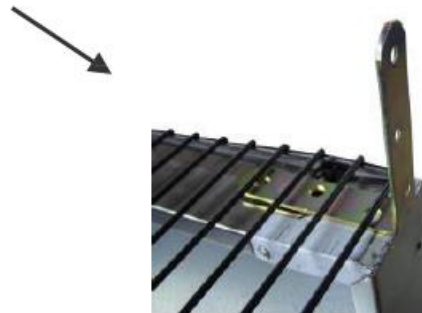
More detailed information about levelling legs is provided in "Installation of Legs" Section.



NOTE: To operate in a stable condition, glass door cabinets must be fixed on the wall by screwing the brackets located on its back.



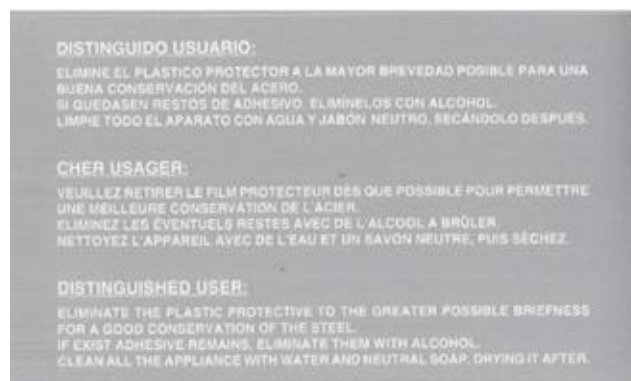
NOTE: To operate in a stable condition, glass door cabinets must be fixed on the wall by screwing the brackets located on its back.



6.7. Initial Cleaning Procedure



NOTE: This sticker indicates the procedure to follow in the conservation of the section:





Before starting-up and placing any food inside the cabinet, firstly remove the protective film and then clean the complete unit thoroughly. If any adhesive remains, eliminate it with alcohol. Washing with a mild soap and warm water solution is recommended for cleaning all the stainless-steel surfaces of your cabinet. This should be followed by cleaning with a baking soda solution. Rinse thoroughly with clear water and dry with a clean, soft cloth.

The cleaning of refrigeration equipment should be done following the instructions provided. Establish a regular cleaning schedule that allows you to maintain a proper level of hygiene. This will ensure optimal operation and extend the lifespan of the equipment.

It is recommended to follow the following maintenance schedule:

TYPE	AREA	FREQUENCY
CLEANING	EXTERIOR	WEEKLY
CLEANING	INTERIOR	MONTHLY
MAINTENANCE	DOORS	MONTHLY
CLEANING	GENERAL	EVERY 2-3 MONTHS

Cleaning and disinfection of the equipment should be done using non-abrasive detergents that are approved for food use. Never use alcohol, solvents, acetone, chlorine-based detergents, or products that chemically attack copper or aluminium.

It is important to note that for cleaning the glass parts, specific products should be used. The use of water can lead to the accumulation of limescale deposits.



NOTE: Never use abrasive or harsh cleaners, concentrated detergents, solvents or chemicals when cleaning the unit.

CONDENSER CLEANING

The condenser, located behind the rear or front grille of the unit, depending on the model, should be inspected periodically. **It is recommended to do so at least every 2 months.**



WARNING: Before cleaning or repairing the appliance, make sure it is unplugged.

The frequency of cleaning will depend on the working environment. Ensure that air circulates through the condenser, so its surface should be free from dirt and grease. Dirty condensers can cause malfunctions. If the condenser coil is dirty or blocked, follow the steps below:

- Disconnect the appliance from the power supply.
- Remove the rear or front grille of the unit, depending on the model.
- in some models, it may be necessary to remove the screws that secure the condenser unit to the baseboard and extract it to access the condenser for cleaning.

- If the condenser has a protective casing, unscrew it, and remove it.
- Once the surface of the condenser is exposed, clean it using a vacuum cleaner or a soft brush. Never use a metal brush.
- If there is excessive dirt, you can use compressed air for cleaning.
- Once it is clean, reattach the protective casing, place the condenser unit back in its original position, and secure it with screws.
- Finally, reinstall the grille and connect the appliance to the power supply.



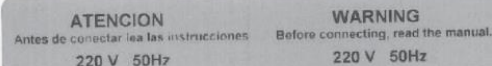
Never use water to clean the condenser as it could damage nearby electrical components.

7. ELECTRICAL INSTRUCTIONS

You must check the voltage of the installation before connecting the unit, making sure that it is the appropriate one. To determine the voltage of the unit, check the rating label located inside the cabinet. Verify that this information coincides exactly with the electrical characteristics of where it will be installed.



NOTE: This sticker is located on the power cord, it warns us of the electrical risk in the appliance.



NOTE: The device must be connected to a dedicated circuit. Failure to comply with this requirement will void the warranty.



NOTE: This unit is designed to cope with a voltage fluctuation of 5% with respect to the rated voltage indicated on the nameplate. Compressor failure due to higher fluctuations automatically voids the warranty.

The units are supplied with a UL approved power cord and plug that are installed at the factory. Infrico uses these types of plugs. If you do not have the correct outlet, have a electrician install the correct outlet certified.



115 / 60 / 1 NEMA 5-15P



115 / 60 / 1 NEMA 5-20P





If the hose or plug is altered in any way, it could pose a serious. Any tampering with these components will void the warranty.



Infrico does not warrant those appliances connected to an extension cord.

8. ELECTRICAL CONNECTION

The assembly, installation and connection of this refrigerated cabinet must be carried out by a certified technician.



Before accessing the electrical terminals of the unit, all power cables must be disconnected.

The electrical connections must be made following the electrical diagram provided with each unit and in accordance with the current safety regulations.



For the electrical connection, it is necessary to incorporate a selector switch in accordance with the installation regulations. This switch should be directly connected to the power terminals and should have contact separation in all poles to provide disconnection under Category III overvoltage conditions.

Before connecting to the electrical network, ensure that the supply voltage corresponds to the one indicated on the rating plate. The power outlet must be suitable for the maximum power consumption.



The power cables must be properly extended, protected from impacts, and kept away from liquids, water, and heat sources. They should be in perfect condition. The use of multiple plugs is not allowed.

To prevent risks, if the power cable(s) become damaged, they should be replaced by the manufacturer to ensure safety.

9. STARTUP PROCEDURE

After the cabinet has been installed, levelled, cleaned and electrically connected in accordance with this manual, it is ready to operate. Simply plug the unit in to begin operation.

The system should run smoothly and quietly in accordance with generally accepted commercial standards. If any unusual noises are heard, turn the unit off immediately and check for any obstructions of the fans.

The appliance requires some time to reach the operating temperature. Please wait until it is reached before loading any products. Continuous opening of the door hinders the equipment's ability to maintain proper cooling efficiency.

For evaporators with electronic thermostats, the appliance is factory-set with standard parameter configurations and a specific cut-off set-point adjustment should be made according to your specific needs.



NOTE: Before loading product, we recommend running the unit empty for 24 hours.



NOTE: It is mandatory to leave a minimum of 3cm of space between the back of the refrigeration unit and the wall.



NOTE: If the refrigerator is disconnected or shut off, wait five minutes before starting again.



NOTE: Keep all ventilation openings of the equipment clear of obstructions.

10. OPERATION – EVJ 200 EVCO CONTROLLER



- Controller for low temperature units.
- Power supply 230 VAC.
- Incorporated clock (according to the model).
- Cabinet probe and evaporator probe (PTC/NTC).
- Door switch input.
- Compressor relay 16 A res. @ 250 VAC or 30 A res. @ 250 VAC (according to the model).
- Alarm buzzer.
- TTL MODBUS slave port for EVconnect APP or BMS.
- Port for SD card data-logger module EVBD05 (according to the model).
- Models in plastic container or open frame (according to the model).

10.1. Measurements and installation – Measurements in mm (inches)

10.1.1. Models in plastic container

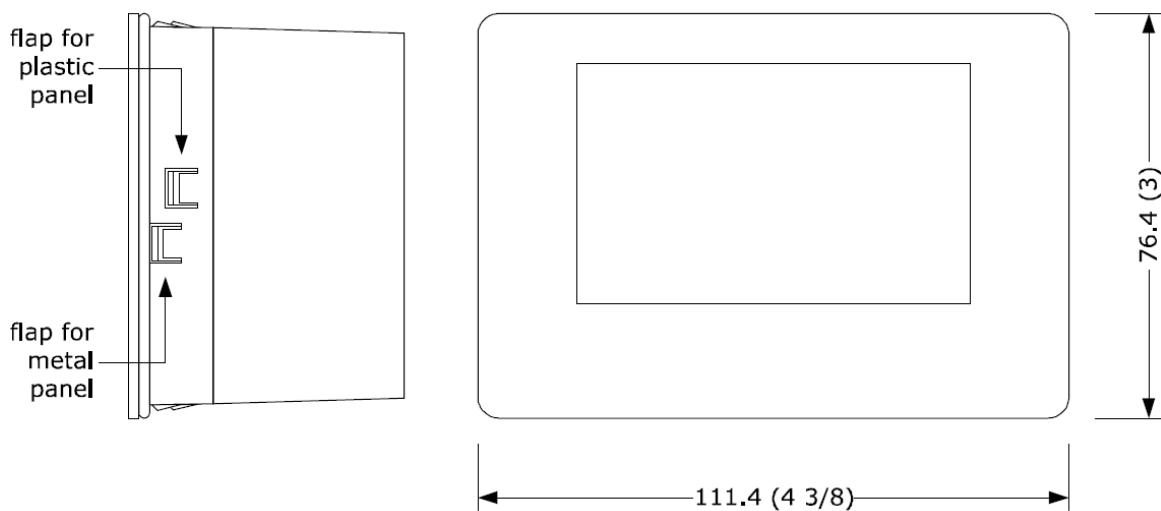
According to the model, front installation on a plastic or metal panel (with elastic holding flaps) or installed from behind a glass or methacrylate panel (with biadhesive) customizing the keys on the front of the unit.



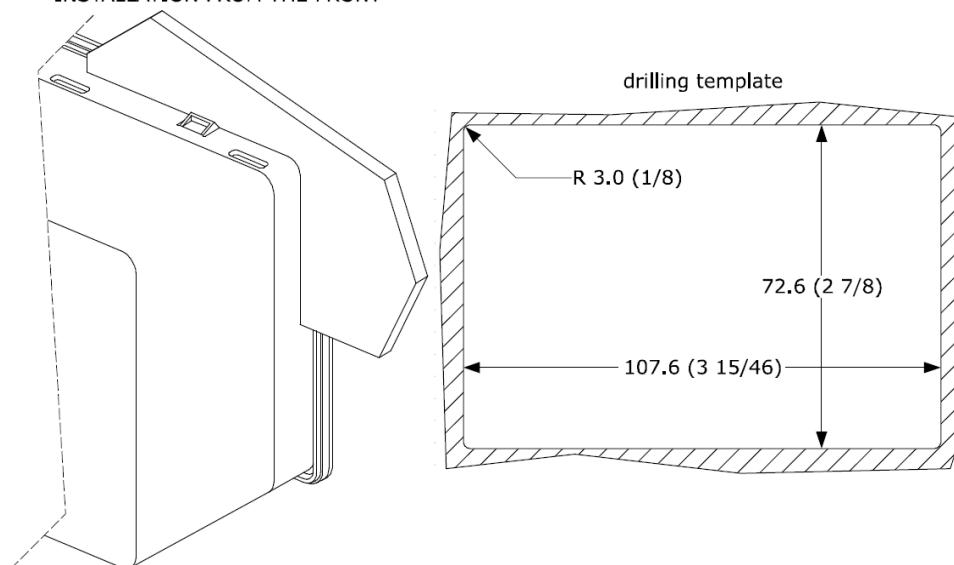
NOTE:

For models for front installation: the thickness of a metal panel must be between 0.8 and 1.5 mm (1/32 and 1/16 in), while that for a plastic panel must be between 0.8 and 3.4 mm (1/32 and 1/8 in).

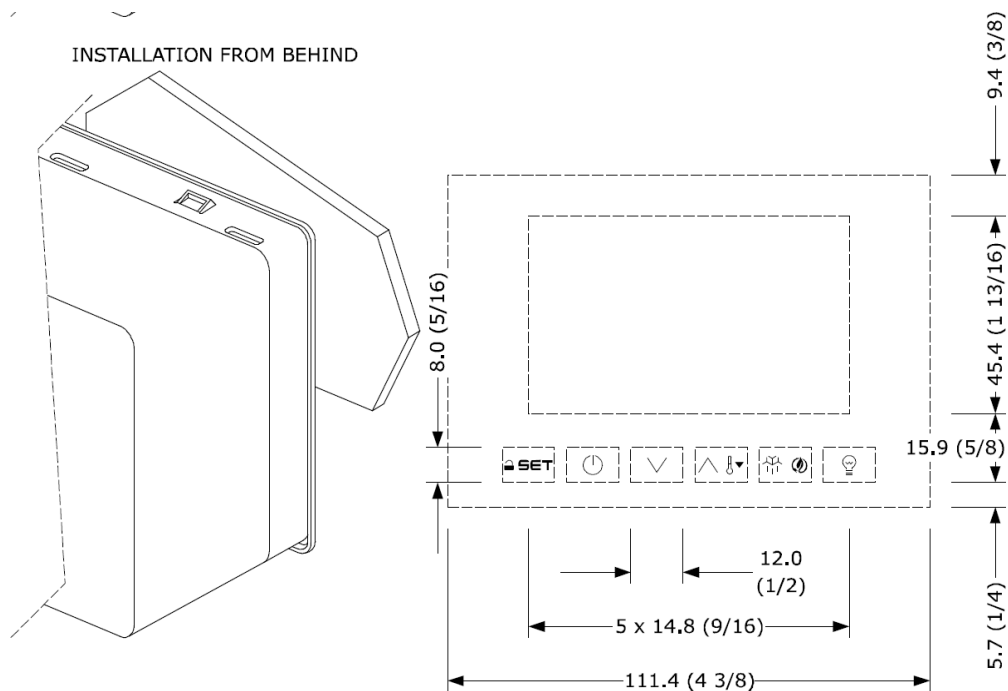
For models installed from behind: the thickness of the panel must be between 2.0 and 4.0 mm (1/16 and 1/8 in); the panel and the material used to make screen printing must not contain conductive substances.



INSTALLATION FROM THE FRONT

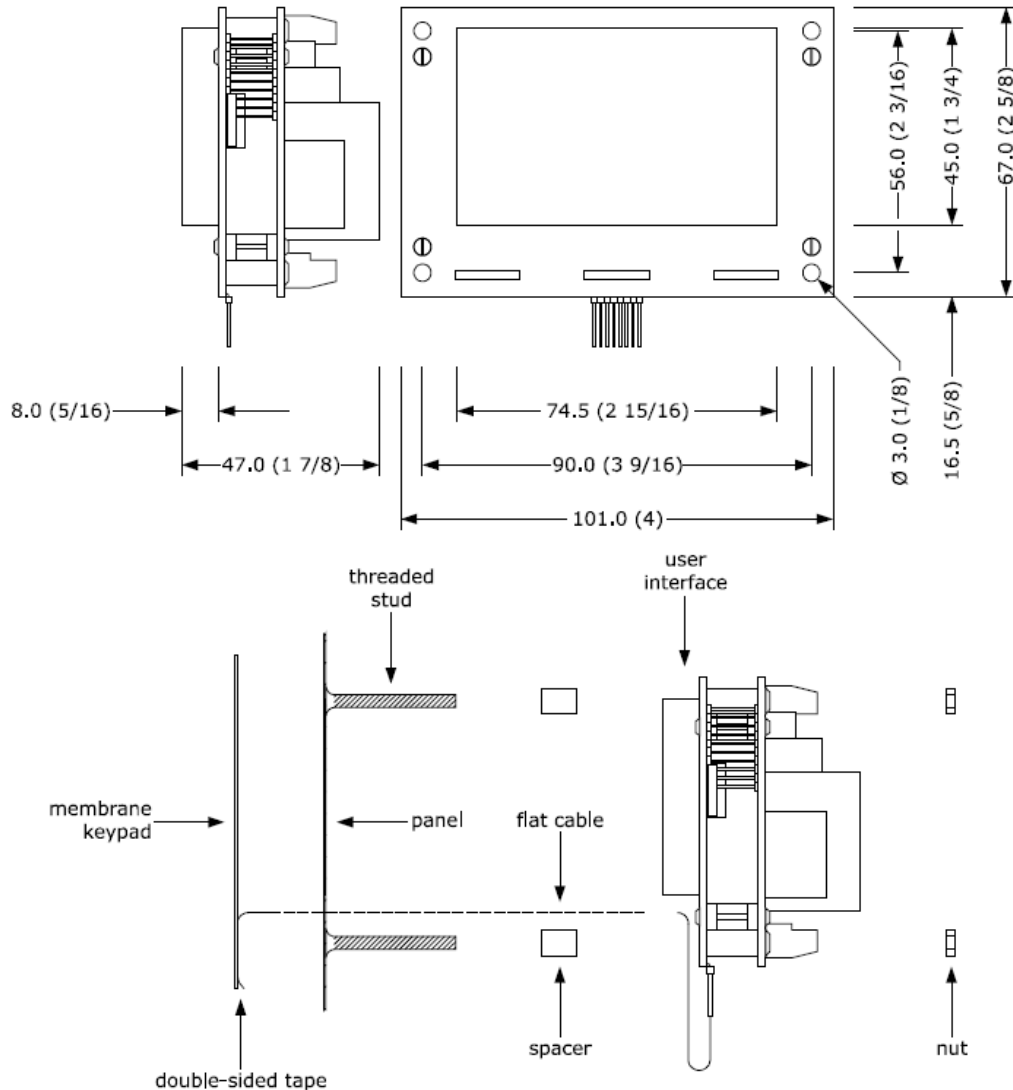


INSTALLATION FROM BEHIND



10.1.2. Open-frame models

To be installed from behind, with threaded studs and membrane keypad.



INSTALLATION PRECAUTIONS

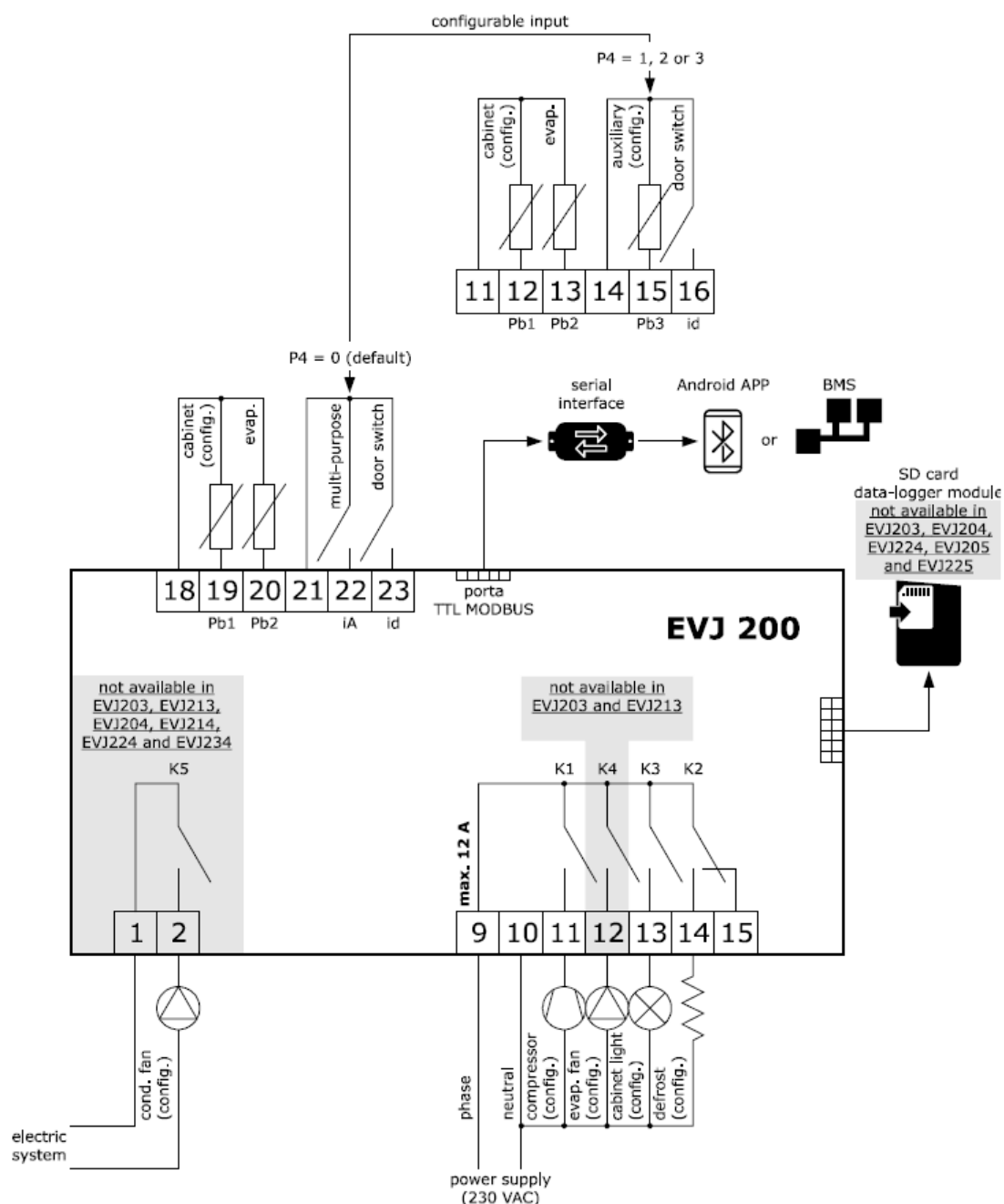
- Ensure that the working conditions are within the limits stated in the TECHNICAL SPECIFICATIONS section.
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks.
- In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them.

10.2. Electrical connection



NOTE:

- Use cables of an adequate section for the current running through them.
- To reduce any electromagnetic interference, connect the power cables as far away as possible from the signal cables.





PRECAUTIONS FOR ELECTRICAL CONNECTION

- If using an electrical or pneumatic screwdriver, adjust the tightening torque.
- If the device has been moved from a cold to a warm place, the humidity may have caused condensation to form inside. Wait about an hour before switching on the power.
- Make sure that the supply voltage, electrical frequency and power are within the set limits. See the section TECHNICAL SPECIFICATIONS.
- Disconnect the power supply before doing any type of maintenance.
- Do not use the device as safety device.
- For repairs and for further information, contact the EVCO sales network.

10.3. First-time use

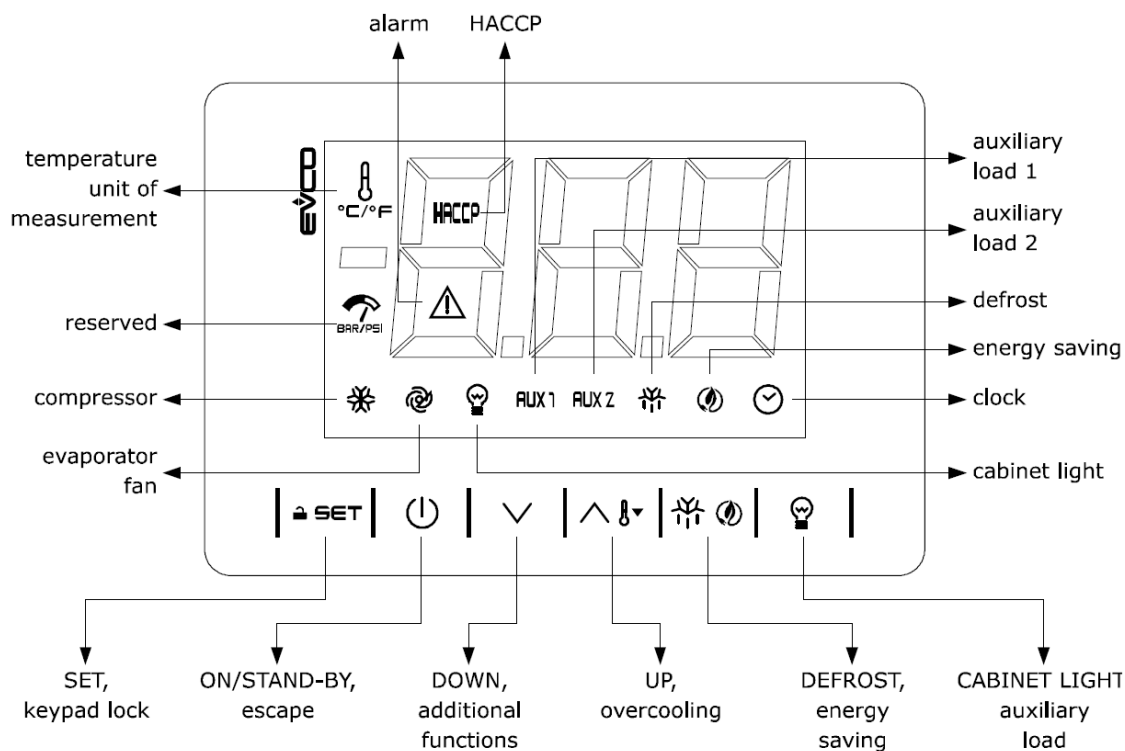
- 1) Install following the instructions given in the section Measurements and installation.
- 2) Power up the device and an internal test will be run.
The test normally takes a few seconds, when it is finished the display will switch off.
- 3) Configure the device as shown in the section *Setting configuration parameters*.
Recommended configuration parameters for first-time use.

PAR.	DEF.	PARAMETER	MIN... MAX.
SP	0.0	Setpoint	r1... r2
P0	1	Probe type	0 = PTC 1 = NTC
P2	0	Temperature unit of measurement	0 = °C 1 = °F
d1	0	Defrost type	0 = electric 1 = hot gas 2 = compressor stopped

Then check that the remaining settings are appropriate; see the section Configuration parameters.

- 4) Disconnect the device from the mains.
- 5) Make the electrical connection as shown in the section Electrical connection without powering up the device.
- 6) For the connection in an RS-485 network connect the interface EVIF22TSX or EVIF23TSX, to activate real time functions in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225 connect the module EVIF23TSX, for recording HACCP data in CSV format on SD card connect the module EVBD05, to use the device with the Android APP EVconnect connect the interface EVIF25TBX (or use EVJ214N7VXXRXV, EVJ234 or EVJ235); see the relevant instruction sheets. **If EVIF22TSX or EVIF23TSX is used, set parameter bLE to 0.**
- 7) Power up the device

10.4. User interface and Main functions



10.4.1. Switching the device on and off

1.  If POF = 1 (default), touch the ON/STAND-BY key for 2s.

If the device is switched on, the display will show the P5 value ("cabinet temperature" default); if the display shows an alarm code, see the section Alarms.

LED	ON	OFF	FLASHING
	Compressor on	Compressor off	- Compressor protection active - Setpoint being set
	Evaporator fan on	Evaporator fan off	Evaporator fan stop active
	Cabinet light on	Cabinet light off	Cabinet light on by digital input
AUX 1	Auxiliary function 1 on	Auxiliary function 1 off	- Auxiliary function 1 on by digital input - Auxiliary function 1 delay active

AUX 2	Auxiliary function 2 on	Auxiliary function 2 off	- Auxiliary function 2 on by digital input - Auxiliary function 2 delay active
	Defrost or pre-drip active	-	- Defrost delay active - Dripping active
	- Energy saving active - Low consumption active	-	-
	View time	-	Set date, time and day of the current week
	View temperature	-	Overcooling or overheating active
HACCP	Saved HACCP alarm	-	New HACCP alarm saved
	Alarm active	-	-

If Loc = 1 (default) and 30s have elapsed without the keys being pressed, the display will show the “**Loc**” label, and the keypad will lock automatically.

10.4.2. Unlock keypad

Touch a key for 1s: the display will show the label “**UnL**”.

10.4.3. Set the setpoint (if r3 = 0, default)

Check that the keypad isn’t locked.

1.		Touch the SET key.
2.		Touch the UP or DOWN key within 15s to set the value within the limits r1 and r2 (default “-40... 50”)
3.		Touch the SET key (or do not operate for 15s).

10.4.4. Activate manual defrost (if r5 = 0, default)

Check that the keypad is not locked, and that overcooling is not active.

1.  Touch the DEFROST key for 2s.

If P3 = 1 (default), defrost is activated provided that the evaporator temperature is lower than the d2 threshold.

10.4.5. Cabinet light on/off (if $u1c... u5c = 5$)

1.  Touch the CABINET LIGHT key.

10.4.6. Button-operated load on/off (if $u1c... u5c = 10$ or 11)

1.  Touch the CABINET LIGHT key (for 2s if $u1c... u5c = 5$).

If $u1c... u5c = 6$, the **demisting** switch on for the $u6$ duration.

10.4.7. Silence buzzer (if $u9 = 1$, default)

Touch a key.

If $u1c... u5c = 11$ and $u4 = 1$, the alarm output is deactivated.

10.5. Additional functions

10.5.1. Activate/deactivate overcooling and overheating

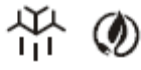
Check that the keypad is not locked.

1.  Touch the UP key for 2s.

FUNCTION	CONDITION	CONSEQUENCE
Overcooling	$r5 = 0$ and defrost not active	the setpoint becomes "setpoint - $r6$ ", for the $r7$ duration
Overheating	$r5 = 1$	the setpoint becomes "setpoint + $r6$ ", for the $r7$ duration

10.5.2. Activate/deactivate energy saving in manual mode (if $r5 = 0$)

Check that the keypad is not locked.

1.  Touch the DEFROST key.

The setpoint becomes "setpoint + $r4$ ", at maximum for HE2 duration.

10.5.3. Activate the high or low humidity functions (if F0 = 5)

Check that the keypad is not locked.

1.		Touch the DOWN key for 1s.
2.		Touch the UP or DOWN key within 15s to select the label “rH”.
3.		Touch the SET key for 2s until the display shows the right label for the function (only touch the key to see the function activated).
	LAB.	DESCRIPTION
	rhL	low humidity function (evaporator fan with F17 and F18 if the compressor is off, on if the compressor is on)
	rhH	high humidity function (evaporator fan on)
4.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.

10.5.4. View/delete HACCP alarm information (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)

Check that the keypad isn't locked.

1.			Touch the DOWN key for 1s.
2.			Touch the UP or DOWN key within 15s to select a label.
	LAB.	DESCRIPTION	
	LS	view HACCP alarm information	
	rLS	delete HACCP alarm information	
3.			Touch the SET key.
4.			Touch the UP or DOWN key to select an alarm code (to select label “LS”) or to set “149” (to select label “rLS”).
	COD.	DESCRIPTION	
	AL	low temperature alarm	
	AH	high temperature alarm	
	id	open door alarm (if i4 = 1)	
	PF	power failure alarm (available in EVJ213, EVJ214, EVJ214N7VXXRXV, EVJ215, EVJ234 and EVJ235 or in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225 with interface EVIF25TBX connected)	

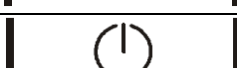
5.		Touch the SET key.
6.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.

Example of alarm information (e.g. a high temperature alarm):

8.0	critical value (calculated cabinet/product temperature) was 8.0 °C/°F
Sta	(available in EVJ213, EVJ214, EVJ214N7VXXRXV, EVJ215, EVJ234 and EVJ235 or in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225 with interface EVIF25TBX connected)
y15	alarm signalled in 2015
n03	alarm signalled in March
d26	alarm signalled on 26 March 2015
h16	alarm signalled at 16:00
n30	alarm signalled at 16:30
dur	
h01	alarm lasted 1h
n15	alarm lasted 1h 15min

10.5.5. View/delete compressor functioning hours

Check that the keypad isn't locked.

1.		Touch the DOWN key for 1s.								
2.		Touch the UP or DOWN key within 15s to select a label.								
	<table><tr><th>LAB.</th><th>DESCRIPTION</th></tr><tr><td>CH1</td><td>view compressor functioning hundreds of hours</td></tr><tr><td>CH2</td><td>view second compressor functioning hundreds of hours (if u1c... u5c = 1)</td></tr><tr><td>rCH</td><td>delete compressor and second compressor functioning hours</td></tr></table>		LAB.	DESCRIPTION	CH1	view compressor functioning hundreds of hours	CH2	view second compressor functioning hundreds of hours (if u1c... u5c = 1)	rCH	delete compressor and second compressor functioning hours
LAB.	DESCRIPTION									
CH1	view compressor functioning hundreds of hours									
CH2	view second compressor functioning hundreds of hours (if u1c... u5c = 1)									
rCH	delete compressor and second compressor functioning hours									
3.		Touch the SET key.								
4.		Touch the UP or DOWN key to set “149” (to select label “rCH”).								
5.		Touch the SET key.								
6.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.								

10.5.6. View the temperature detected by the probes

Check that the keypad isn't locked.

1.		Touch the DOWN key for 1s.											
2.		Touch the UP or DOWN key within 15s to select a label.											
	<table><tr><th>LAB.</th><th>DESCRIPTION</th></tr><tr><td rowspan="2">Pb1</td><td>cabinet temperature (if P4 = 0, 1 or 2)</td></tr><tr><td>inlet air temperature (if P4 = 3)</td></tr><tr><td>Pb2</td><td>evaporator temperature (if P3 = 1 or 2)</td></tr><tr><td>Pb3</td><td>auxiliary temperature (if P4 = 1, 2 or 3)</td></tr><tr><td>Pb4</td><td>calculated product temperature (CPT; if P4 = 3)</td></tr></table>		LAB.	DESCRIPTION	Pb1	cabinet temperature (if P4 = 0, 1 or 2)	inlet air temperature (if P4 = 3)	Pb2	evaporator temperature (if P3 = 1 or 2)	Pb3	auxiliary temperature (if P4 = 1, 2 or 3)	Pb4	calculated product temperature (CPT; if P4 = 3)
LAB.	DESCRIPTION												
Pb1	cabinet temperature (if P4 = 0, 1 or 2)												
	inlet air temperature (if P4 = 3)												
Pb2	evaporator temperature (if P3 = 1 or 2)												
Pb3	auxiliary temperature (if P4 = 1, 2 or 3)												
Pb4	calculated product temperature (CPT; if P4 = 3)												
3.		Touch the SET key.											
4.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.											

10.6. DATA-LOGGER MODULE on SD CARD (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)

10.6.1. Initial information

The data-logger module makes it possible to write information about the device on an SD card (in CSV format), in HACCP or service mode.

Data-logger module configuration parameters:

PAR.	DEF.	PARAMETER	MIN... MAX.
Sd0	30	SD card writing interval in HACCP mode	1... 30 min
Sd1	1	SD card writing interval in service mode	1... 30 min
Sd2	60	Service mode duration	1... 240
Sd3	0	Enable critical temperature recording	0 = no 1 = yes
Sd4	1	Enable cabinet temperature recording	0 = no 1 = yes
Sd5	1	Decimal separator type	0 = comma 1 = point

10.6.2. Writing in HACCP mode

Writing in HACCP mode is always activated, it generates a daily file and a monthly file.

Information written in HACCP mode:

- cabinet temperature (if Sd4 = 1, default “no”)
- critical temperature (if Sd3 = 1, default “no”)
- device switched on/off
- defrost activated/completed
- energy saving activated/deactivated
- alarm activated/restored
- power supply restored

The date and time are written for each piece of information.

10.6.3. Writing in service mode

Writing in service mode must be manually activated.

Information written in service mode.

- temperature detected by all probes
- enable/disable probes
- device switched on/off
- functions on/off
- defrost activated/completed
- energy saving activated/deactivated
- alarm activated/restored
- power supply restored

The date and time are written for each piece of information.

10.6.4. Activate/deactivate writing in service mode

Check that the keypad isn't locked.

1.		Touch the DOWN key for 1s.
2.		Touch the UP or DOWN key within 15s to select the label “SEr”.
3.		Touch the SET key.
4.		Touch the UP or DOWN key within 15s to set “1” (activate writing) or “0” (deactivate writing).
5.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.

10.6.5. File names

Example of a daily file name written in HACCP mode (e.g. the file "log001_2015_03_26.csv").

001	the device address is 1 (parameter LA)
2015	the file was written in 2015
03	the file was written in March
26	the file was written on 26 March 2015

Example of a monthly file name written in HACCP mode (e.g. the file "log001_2015_m03.csv").

001	the device address is 1 (parameter LA)
2015	the file was written in 2015
m03	the file was written in March 2015

Example of a file name written in service mode (e.g. the file "log001_2015_0001.csv").

001	the device address is 1 (parameter LA)
2015	the file was written in 2015
0001	sequence number

10.6.6. View data-logger module alarms

Check that the keypad isn't locked.

1.		Touch the DOWN key for 1s.
2.		Touch the UP or DOWN key within 15s to select the label "Err".
3.		Touch the SET key.
4.		Touch the UP or DOWN key within 15s to see the alarm code.
	LAB.	DESCRIPTION
	FUL	no space left on SD card alarm
	Sd	SD card not inserted or not recognised alarm
5.		Touch the ON/STAND-BY key (or do not operate for 60s) to exit the procedure.

10.7. Settings

10.7.1. Setting configuration parameters

1.		Touch the SET key for 4s: the display will show the label "PA".
2.		Touch the SET key.
3.		Touch the UP or DOWN key within 15s to set the PAS value (default "-19").
4.		Touch the SET key (or do not operate for 15s): the display will show the label "SP".
5.		Touch the UP or DOWN key to select a parameter.
6.		Touch the SET key.
7.		Touch the UP or DOWN key within 15s to set the value.
8.		Touch the SET key (or do not operate for 15s).
9.		Touch the SET key for 4s (or do not operate for 60s) to exit the procedure.

10.7.2. Set the date, time and day of the week (available in EVJ213, EVJ214, EVJ214N7VXXRXV, EVJ215, EVJ234 and EVJ235 or in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225 with interface EVIF25TBX connected)



NOTE:

- If the device is connected to the interface EVIF25TBX, do not disconnect the device from the mains within two minutes since the setting of the time and day of the week.
- If the device communicates with the APP EVconnect, the date, time and day of the week will automatically be set by the smartphone or tablet.

Check that the keypad isn't locked.

1.		Touch the DOWN key for 1s.
2.		Touch the UP or DOWN key within 15s to select the label "rtc".
3.		Touch the SET key: the display will show the label "y" followed by the last two figures of the year.

4.		Touch the UP or DOWN key within 15s to set the year.
5.	Repeat actions 3 and 4 to set the next labels.	
	LAB.	MEANING OF THE NUMBERS FOLLOWING THE LABEL
	n	Month (01... 12)
	d	Day (01...31)
	h	Time (00... 23)
	n	Minutes (00... 59)
6.		Touch the SET key: the display will show the label for the day of the week.
7.		Touch the UP or DOWN key within 15s to set the day of the week.
	LAB.	DESCRIPTION
	Mon	Monday
	tuE	Tuesday
	UEd	Wednesday
	thu	Thursday
	Fri	Friday
	Sat	Saturday
	sun	Sunday
8.		Touch the SET key: the device will exit the procedure.
9.		Touch the ON/STAND-BY key to exit the procedure.

10.7.3. Reset the factory settings

 **NOTE:** Check that the factory settings are appropriate; see the section Configuration parameters.

1.		Touch the SET key for 4s: the display will show the label “PA”.
2.		Touch the SET key.
3.		Touch the UP or DOWN key within 15s to set “149”.
4.		Touch the SET key (or do not operate for 15s): the display will show the label “dEF”.
5.		Touch the SET key.

6.		Touch the UP or DOWN key within 15s to set "1".
7.		Touch the SET key (or do not operate for 15s).
8.	Interrupt the power supply to the device.	
9.		Touch the SET key for 2s before action 6 to exit the procedure beforehand.

10.8. Configuration parameters

	N.	PAR.	DEF.	SETPOINT	MIN... MAX.
	1	SP	0.0	setpoint	r1... r2
	N.	PAR.	DEF.	ANALOGUE INPUTS	MIN... MAX.
	2	CA1	0.0	Cabinet probe offset	-25... 25 °C/°F if P4 = 3, air in probe offset
	3	CA2	0.0	Evaporator probe offset	-25... 25 °C/°F
	4	CA3	0.0	Auxiliary probe offset	-25... 25 °C/°F
	5	P0	1	Probe type	0 = PTC 1 = NTC
	6	P1	1	enable °C decimal point	0 = no 1 = yes
	7	P2	0	temperature unit of measurement	0 = °C 1 = °F
	8	P3	1	evaporator probe function	0 = disabled 1 = defrost + fan 2 = fan
	9	P4	0	configurable input function (option 4 only available in EVJ224, EVJ225, EVJ234 and EVJ235)	0 = digital input 1 = condenser probe 2 = critical temperature probe 3 = air out probe 4 = evaporator 2 probe If P4 = 3, regulation temperature = product temperature (CPT)
	10	P5	0	value displayed	0 = regulation temperature 1 = setpoint 2 = evaporator temperature 3 = auxiliary temperature 4 = air in temperature
	11	P7	50	inlet air weight for calculated product temperature (CPT)	0... 100 % CPT = {[(P7 x (inlet air T)) + [(100 - P7) x (outlet air T)] : 100}
	12	P8	5	display refresh time	0... 250 s: 10
	N.	PAR.	DEF.	REGULATION	MIN... MAX.
	13	r0	2.0	setpoint differential	1... 15 °C/°F if u1c... u5c 1, proportional band

	14	r1	-40	minimum setpoint	-99 °C/°F... r2
	15	r2	50.0	maximum setpoint	r1... 199 °C/°F
	16	r3	0	enable setpoint Block	0 = no 1 = yes
	17	r4	0.0	setpoint offset in energy saving	0... 99 °C/°F
	18	r5	0	cooling or heating operation	0 = cooling 1 = heating
	19	r6	0.0	setpoint offset in overcooling/overheating	0... 99 °C/°F
	20	r7	0	overcooling/overheating duration	0... 240 minutes
	21	r12	1	r0 differential position	0 = asymmetric 1 = symmetric
	N.	PAR.	DEF.	COMPRESSOR	MIN... MAX.
	22	C0	3	Compressor on delay from power-on	0... 240 minutes
	23	C1	5	delay between two compressor switch-ons	0... 240 minutes
	24	C2	3	minimum compressor-off time	0... 240 minutes
	25	C3	0	minimum compressor-on time	0... 240 s
	26	C4	10	compressor-off time during cabinet probe alarm	0... 240 minutes
	27	C5	10	compressor-on time during cabinet probe alarm	0... 240 minutes
	28	C6	80.0	threshold for high condensation warning	0... 199 °C/°F differential = 2 °C/4 °F
	29	C7	90.0	threshold for high condensation alarm	0... 199 °C/°F
	30	C8	1	high condensation alarm delay	0... 15 minutes
	31	C10	0	Compressor hours for service	0... 999 h x 100 0 = disabled
	32	C11	10	compressor 2 on delay	0... 240 s
	33	C12	2	compressor hours weight for balancing hours and switch-ons (BHC) - (only available in EVJ224, EVJ225, EVJ234 and EVJ235)	0... 10 BHC = {[C12 x (compressor hours)] + [C13 x (compressor switch-ons)]}
	34	C13	1	compressor hours switch-ons for balancing hours and switch-ons (BHC) - (only available in EVJ224, EVJ225, EVJ234 and EVJ235)	0... 10 BHC = {[C12 x (compressor hours)] + [C13 x (compressor switch-ons)]}
	35	C14	1	tie between compressors (only available in EVJ224, EVJ225, EVJ234 and EVJ235)	0 = according to C11 1 = according to r0
	N.	PAR.	DEF.	DEFROST (if r5 = 0)	MIN... MAX.

36	d0	8	automatic defrost interval	0... 99 h 0 = only manual if d8 = 3, maximum interval
37	d1	0	Defrost type	0 = electric 1 = hot gas 2 = compressor stopped
38	d2	2.0	threshold for defrost end	-99... 99 °C/°F
39	d3	30	Defrost duration	0... 99 min if P3 = 1, maximum duration
40	d4	0	enable defrost at power-on	0 = no 1 = yes
41	d5	0	defrost delay after power-on	0... 99 min
42	d6	1	Value displayed during defrost	0 = regulation temperature 1 = display locked 2 = dEF label
43	d7	2	Dripping time	0... 15 minutes
44	d8	0	Defrost interval counting mode	0 = device on hours 1 = compressor on hours 2 = hours evaporator temperature < d9 3 = adaptive (if P4 = 4, device on hours) 4 = real time
45	d9	0.0	evaporation threshold for automatic defrost Interval counting	-99... 99 °C/°F
46	d11	0	enable defrost timeout alarm	0 = no 1 = yes
47	d15	0	Compressor on consecutive time for hot gas defrost	0... 99 min
48	d16	0	pre-dripping time for hot gas defrost	0... 99 min
49	d18	40	adaptive defrost interval	0... 999 min if compressor on + evaporator temperature < d22 0 = only manual
50	d19	3.0	threshold for adaptive defrost (relative to optimal evaporation temperature)	0... 40 °C/°F optimal evaporation temperature - d19
51	d20	180	compressor on consecutive time for defrost	0... 999 min 0 = disabled
52	d21	200	compressor on consecutive time for defrost after power-on and overcooling	0... 500 min if (regulation temperature - setpoint) > 10°C/20 °F 0 = disabled
53	d22	-2.0	evaporation threshold for adaptive defrost interval	-10... 10 °C/°F optimal evaporation temperature +

			counting (relative to optimal evaporation temperature)	d22
54	d25	0	enable air out probe for defrost during evaporator probe alarm	0 = no 1 = yes
55	d26	6	defrost interval during evaporator probe alarm	0... 99 h 0 = only manual if d25 = 1
N.	PAR.	DEF.	ALARMS	MIN... MAX.
56	A0	0	select value for high/low temperature alarms	0 = regulation temperature 1 = evaporator temperature
57	A1	0.0	Threshold for low temperature alarm	-99... 99 °C/°F
58	A2	0	low temperature alarm type	0 = disabled 1 = relative to setpoint 2 = absolute
59	A4	0.0	threshold for high temperature alarm	-99... 99 °C/°F
60	A5	0	high temperature alarm type	0 = regulation temperature 1 = evaporator temperature 2 = auxiliary temperature
61	A6	120	high temperature alarm delay after power-on	0... 240 min
62	A7	15	high/low temperature alarm delay	0... 240 min
63	A8	15	high temperature alarm delay after defrost	0... 240 min
64	A9	15	high temperature alarm delay from door closure	0... 240 min
65	A10	10	power failure duration for alarm recording (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)	0... 240 min
66	A11	2.0	high/low temperature alarms reset differential	1... 15 °C/°F
67	A12	1	power failure alarm notification type (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)	0 = HACCP LED 1 = HACCP LED + PF label + buzzer 2 = HACCP LED + PF label + buzzer (if duration > A10)
N.	PAR.	DEF.	FANS	MIN... MAX.
68	F0	1	evaporator fan mode during normal operation	0 = off 1 = on 2 = on if compressor on 3 = thermoregulated (with regulation temperature + F1) 4 = thermoregulated (with

				regulation temperature + F1) if compressor on 5 = according to F6 6 = thermoregulated (with F1) 7 = thermoregulated (with F1) if compressor on
69	F1	-4.0	threshold for evaporator fan operation	-99... 99 °C/°F
70	F2	0	evaporator fan mode during defrost and dripping	0 = off 1 = on 2 = according to F0
71	F3	2	evaporator fans off maximum time	0... 15 min def. 0 in EVJ203 ed EVJ213
72	F4	30	evaporator fan off time during energy saving	0... 240 s x 10 if F0 ≠ 5
73	F5	30	evaporator fan on time during energy saving	0... 240 s x 10 if F0 ≠ 5
74	F6	0	high/low humidity operation	0 = for low humidity (with F17 and F18 if compressor off, on if compressor on) 1 = for high humidity (on)
75	F7	5.0	threshold for evaporator fan on after dripping (relative to setpoint)	-99... 99 °C/°F setpoint + F7
76	F8	2.0	threshold for evaporator fan operation differential	1... 15 °C/°F
77	F9	10	evaporator fans off delay after compressor off	0... 240 s if F0 = 2 or 5
78	F10	1	condenser fan mode	0 = thermoregulated (with F11) 1 = thermoregulated (with F11) if compressor off, on if compressor on 2 = thermoregulated (with F11) if compressor off, on if compressor on, off during defrost, pre-dripping and dripping
79	F11	15.0	threshold for condenser fan on	0... 99 °C/°F differential = 2 °C/4 °F
80	F12	30	condenser fan off delay after compressor off	0... 240 s if P4 ≠ 1
81	F17	60	evaporator fan off time with low humidity	0... 240 s
82	F18	10	evaporator fan on time with low humidity	0... 240 s
	N.	PAR.	DEF.	DIGITAL INPUTS
83	i0	5		door switch input function
				0 = disabled

				1 = compressor + evaporator fan off 2 = evaporator fan off 3 = cabinet light on 4 = compressor + evaporator fan off, cabinet light on 5 = evaporator fan off, cabinet light on
84	i1	0	door switch input activation	0 = with contact closed 1 = with contact open
85	i2	30	open door alarm delay	-1... 120 min -1 = disabled
86	i3	15	regulation inhibition maximum time with door open	-1... 120 min -1 = until the closing
87	i4	0	enable open door alarm recording	0 = no 1 = yes if i2 ≠ -1 and after i2
88	i5	8	multi-purpose input function	0 = disabled 1 = energy saving 2 = iA alarm 3 = iSd alarm 4 = button-operated load 1 on 5 = button-operated load 2 on 6 = device on/off 7 = LP alarm 8 = C1t alarm 9 = C2t alarm
89	i6	0	multi-purpose input activation	0 = with contact closed 1 = with contact open
90	i7	0	multi-purpose input alarm delay	0... 120 min if i5 = 3 or 7, compressor on delay after alarm reset
91	i8	0	number of multi-purpose input activations for high pressure alarm	0... 15 0 = disabled if i5 = 3
92	i9	240	reset counter time for high pressure alarm	1... 999 min
93	i10	0	door closed consecutive time for energy saving	0... 999 min after regulation temperature < SP 0 = disabled
94	i13	180	number of door openings for defrost	0... 240 0 = disabled
95	i14	32	door open consecutive time for defrost	0... 240 min 0 = disabled
N.	PAR.	DEF.	DIGITAL OUTPUTS	MIN... MAX.
96	u1c	0	relay K1 configuration (options 14 and 15 only available in	0 = first compressor 1 = second compressor



			EVJ234 and EVJ235)	2 = evaporator fan 3 = condenser fan 4 = defrost 5 = cabinet light 6 = demisting 7 = door heaters 8 = heater for neutral zone 9 = dripping heater 10 = button-operated load 1 11 = button-operated load 2 12 = alarm 13 = on/stand-by 14 = evaporator fan 2 15 = defrost 2
97	u2c	4	relay K2 configuration (options 14 and 15 only available in EVJ234 and EVJ235)	0 = first compressor 1 = second compressor 2 = evaporator fan 3 = condenser fan 4 = defrost 5 = cabinet light 6 = demisting 7 = door heaters 8 = heater for neutral zone 9 = dripping heater 10 = button-operated load 1 11 = button-operated load 2 12 = alarm 13 = on/stand-by 14 = evaporator fan 2 15 = defrost 2
98	u3c	5	relay K3 configuration (options 14 and 15 only available in EVJ234 and EVJ235)	0 = first compressor 1 = second compressor 2 = evaporator fan 3 = condenser fan 4 = defrost 5 = cabinet light 6 = demisting 7 = door heaters 8 = heater for neutral zone 9 = dripping heater 10 = button-operated load 1 11 = button-operated load 2 12 = alarm 13 = on/stand-by 14 = evaporator fan 2 15 = defrost 2

99	u4c	2	relay K4 configuration (not available in EVJ203 and EVJ213, options 14 and 15 only available in EVJ234 and EVJ235)	0 = first compressor 1 = second compressor 2 = evaporator fan 3 = condenser fan 4 = defrost 5 = cabinet light 6 = demisting 7 = door heaters 8 = heater for neutral zone 9 = dripping heater 10 = button-operated load 1 11 = button-operated load 2 12 = alarm 13 = on/stand-by 14 = evaporator fan 2 15 = defrost 2
100	u5c	3	relay K5 configuration (not available in EVJ203, EVJ213, EVJ204, EVJ214, EVJ214N7VXXRXV, EVJ224 and EVJ234, options 14 and 15 only available in EVJ235)	0 = first compressor 1 = second compressor 2 = evaporator fan 3 = condenser fan 4 = defrost 5 = cabinet light 6 = demisting 7 = door heaters 8 = heater for neutral zone 9 = dripping heater 10 = button-operated load 1 11 = button-operated load 2 12 = alarm 13 = on/stand-by 14 = evaporator fan 2 15 = defrost 2
101	u2	0	enable cabinet light and button-operated load in stand-by	0 = no 1 = yes manual
102	u4	1	enable alarm output off silencing the buzzer	0 = no 1 = yes
103	u5	-1.0	threshold for door heaters on	-99... 99 °C/°F differential = 2 °C/4 °F
104	u6	5	demisting on duration	1... 120 min
105	u7	-5.0	neutral zone threshold heating (relative to setpoint)	-99... 99 °C/°F differential = 2 °C/4 °F setpoint + u7
106	u9	1	enable alarm buzzer	0 = no 1 = yes
 N.	PAR.	DEF.	REAL TIME CLOCK	MIN... MAX.
107	Hr0	0	enable clock (default 0 in	0 = no 1 = yes

				EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)	
	N.	PAR.	DEF.	ENERGY SAVING (if r5 = 0)	MIN... MAX.
	108	HE2	0	energy saving maximum duration	1... 999 min 0 = until the door opening
	Nº.	PAR.	DEF.	REAL TIME ENERGY SAVING (if r5 = 0)	MIN... MAX.
	109	H01	0	energy saving time	0... 23 h
	110	H02	0	energy saving maximum duration	0... 24 h
	N.	PAR.	DEF.	REAL-TIME DEFROST (if d8 = 4)	MIN... MAX.
	111	Hd1	h-	1st daily defrost time	h = disabled
	112	Hd2	h-	2nd daily defrost time	h = disabled
	113	Hd3	h-	3rd daily defrost time	h = disabled
	114	Hd4	h-	4th daily defrost time	h = disabled
	115	Hd5	h-	5th daily defrost time	h = disabled
	116	Hd6	h-	6th daily defrost time	h = disabled
	N.	PAR.	DEF.	DATA-LOGGING (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)	MIN... MAX.
	117	Sd0	30	SD card writing interval in HACCP mode	1... 30 min
	118	Sd1	1	SD card writing interval in service mode	1... 30 min
	119	Sd2	60	service mode duration	1... 240 min
	120	Sd3	0	enable critical temperature recording	0 = no 1 = yes
	121	Sd4	1	enable cabinet temperature recording	0 = no 1 = yes
	122	Sd5	1	decimal separator type	0 = comma 1 = point
	N.	PAR.	DEF.	SAFETIES	MIN... MAX.
	123	POF	1	enable ON/STAND-BY key	0 = no 1 = yes
	124	Loc	1	enable keypad lock (default 0 in the models with open-frame user interface)	0 = no 1 = yes
	125	Sen	90	sensitivity capacitive keyboard (available in the models installed from behind)	60... 120 60 = very sensitive
	126	PAS	-19	password	-99... 999
	127	PA1	426	level 1 password	-99... 999
	128	PA2	824	level 2 password	-99... 999
	N.	PAR.	DEF.	DATA-LOGGING EVLINK	MIN... MAX.
	129	rE0	60	Data-logger sampling interval	0... 240 min
	130	rE1	4	recorded temperature	0 = none 1 = cabinet 2 = evaporator

					3 = auxiliary 4 = cabinet and evaporator 5 = all
Id	N.	PAR.	DEF.	MODBUS	MIN... MAX.
	131	LA	247	MODBUS address	1... 247
	132	Lb	2	MODBUS baud rate	0 = 2,400 baud 1 = 4,800 baud 2 = 9,600 baud 3 = 19,200 baud
	133	LP	2	parity	0 = none 1 = odd 2 = even
	N.	PAR.	DEF.	BLUETOOTH	MIN... MAX.
	134	bLE	1	Enable Bluetooth	0 = no 1 = yes

10.9. Alarms

CODE	DESCRIPTION	RESET	TO CORRECT
Pr1	Cabinet probe alarm	Automatic	- check P0 - check probe integrity - check electrical connection
Pr2	Evaporator probe alarm	Automatic	
Pr3	Auxiliary probe alarm	Automatic	
rtc	clock alarm	Manual	set date, time and day of the week
AL	low temperature alarm	Automatic	check A0, A1 and A2
AH	high temperature alarm	Automatic	check A0, A4 and A5
id	open door alarm	Automatic	check i0 and i1
PF	power failure alarm	Manual	- touch a key - check electrical connection
COH	high condensation warning	Automatic	check C6
CSd	high condensation alarm	Manual	- switch the device off and on - check C7
iA	multi-purpose input alarm	Automatic	Check i5 and i6
iSd	High pressure alarm	Manual	- switch the device off and on - check i5, i6, i8, i9
LP	Low pressure alarm	Automatic	Check i5 and i6
C1t	compressor thermal switch alarm	Automatic	Check i5 and i6
C2t	second compressor thermal switch alarm	Automatic	Check i5 and i6
dFd	defrost timeout alarm	Manual	- touch a key - check d2, d3, and d11
FUL	SD card full alarm	Manual	free up space on the SD card or replace it

Sd | No SD card inserted alarm | Manual | insert the SD card or replace it

10.10. Technical Specification

Purpose of the control device:		function controller
Construction of the controller device:		build-in electronic device
Container:	Models in plastic container	Black, self-extinguishing
	Open-frame models	Open-frame board
Category of heat and fire resistance:		D
Measurements:	Models in plastic container	111.4 x 76.4 x 48.0 mm (4 3/8 x 3 x 1 7/8 in)
	Open-frame models	101.0 x 67.0 x 47.0 mm (4 x 2 5/8 x 1 7/8 in)
Mounting methods for the control device:	Models in plastic container	according to the model, front installation on a plastic or metal panel (with elastic holding flaps) or installed from behind a glass or methacrylate panel (with biadhesive) customizing the keys on the front of the unit
	Open-frame models	To be installed from behind, with threaded studs and membrane keypad (not provided)
Degree of protection provided by the covering:	Models in plastic container	IP65 (front), on condition the device is fitted to a metal panel with thickness 0.8 mm (1/32 in)
	Open-frame models	IP00
Connection method:		
Fixed screw terminal blocks for wires up to 2.5 mm ² (removable screw terminal blocks for wires up to 2.5 mm ² by request)		
Pico-Blade connector		Micro-MaTch connector
Maximum permitted length for connection cables:		
power supply: 10 m		analogue inputs: 10 m (32.8 ft)
digital inputs: 10 m (32.8 ft)		digital outputs: 10 m (32.8 ft)
Operating temperature:		from -5 to 55 °C (from 23 to 131 °F)
Storage temperature:		from -25 to 70 °C (from -13 to 158 °F)
Operating humidity:		relative humidity without condensate from 10 to 90 %
Pollution status of the control device:		2

Compliance:		
RoHS 2011/65/EC	WEEE 2012/19/EU	EMC 2014/30/UE
REACH (EC) Regulation n° 1907/2006		LVD 2014/35/EU
Power supply:		
230 VAC (+10% -15%), 50/60 Hz (±3 Hz), max. 6 VA insulated		115... 230 VAC (+10 % -15 %), 50/60 Hz (±3 Hz), max. 6 VA insulated in EVJ205 and EVJ215 with compressor relay rated 16 A res. @ 250 VAC
Earthing methods for the control device:		none
Rated impulse-withstand voltage:		2.5 kV
Over-voltage category:		II
Software class and structure:		A
Clock:		Incorporated secondary lithium battery (clock not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)
Clock drift:		≤ 60 s/month at 25 °C (77 °F)
Clock battery autonomy in the absence of a power supply:		> 24 h at 25 °C (77 °F)
Clock battery charging time:		24 h (the battery is charged by the power supply of the device)
Analogue inputs:		2 for PTC or NTC probes (cabinet probe and evaporator probe)
PTC probes:	Type of sensor:	KTY 81-121 (990 Ω @ 25 °C, 77 °F)
	Measurement field:	from -50 to 150 °C (from -58 to 302 °F)
	Resolution:	0,1 °C (1 °F)
NTC probes:	Type of sensor:	β3435 (10 kΩ @ 25 °C, 77 °F)
	Measurement field:	from -40 to 105 °C (from -40 to 221 °F)
	Resolution:	0,1 °C (1 °F)
Digital inputs:		1 dry contact (door switch)
Dry contact:	Type of contact:	5 VDC, 2 mA
	Power supply:	none
	Protection:	none
Other inputs:		Input configurable for analogue input (auxiliary probe) or digital input (multi-purpose input)
Digital outputs:		5 (4 for EVJ204, EVJ214, EVJ214N7VXXRXV, EVJ224 and EVJ234, 3 for EVJ203 and EVJ213) with electro-mechanical relay
Relay K1:		SPST, 16 A res. @ 250 Vac
		SPST, 30 A res. @ 250 VAC in EVJ2?5?9??3???

Relay K2:	SPDT, 8 A res. @ 250 Vac
Relay K3:	SPST, 8 A res. @ 250 VAC
Relay K4 (not available in EVJ203 and EVJ213)	SPST, 5 A res. @ 250 VAC
Relay K5 (not available in EVJ203, EVJ213, EVJ204, EVJ214, EVJ214N7VXXRXV, EVJ224 and EVJ234)	SPST, 5 A res. @ 250 VAC
The device guarantees double insulation between each digital output connector and the rest of the components of the device	
Type 1 or Type 2 actions:	Type 1
Additional features of Type 1 or Type 2 actions:	C
Displays:	custom display with 3 digits and function icons
Alarm buzzer:	incorporated
Communication ports:	
1 TTL MODBUS slave port for EVconnect APP or BMS	1 port for SD card data-logger module EVBD05 (not available in EVJ203, EVJ204, EVJ205, EVJ224 and EVJ225)

11. ACCESSORIES

11.1. Installation of Shelves

Reach-in refrigerators and freezers are supplied from factory with pilasters, stainless steel rails and stainless-steel shelves. Shelf rails are installed by inserting them into the pilasters at the desired shelf location. Then, place shelves on the rails, making sure they are seated properly.



Insert the rails into the pilasters and place the shelves on the rails

11.2. Installation of Legs

In some models are supplied standard with casters, which are factory installed. Legs in lieu of casters are supplied as an optional accessory. To replace casters and install legs, the following instruction must be followed:

- 1) Carefully place the unit on its back.
- 2) Remove casters by unscrewing them.
- 3) Place the legs over the holes, matching the 4 mounting holes to the pre-drilled holes in the underside of the unit. Insert 4 screws and tighten. Repeat with the other legs.
- 4) Make sure the legs are extremely well tightened.
- 5) The end of the leg is adjustable and can be turned by hand, clockwise or counterclockwise to level the cabinet.
- 6) Carefully lift the unit upright.



Remove the screws of
the casters



Screw the legs in the same holes



Adjust the legs to level the unit

12. MAINTENANCE, CARE AND CLEANING

Before starting work on systems containing FLAMMABLE REFRIGERANTS, safety checks should be carried out to ensure that the risk of ignition is minimized.

Working procedure

Work shall be undertaken under a controlled procedure to minimize risk of a flammable gas or vapor being present while the work is being performed.

General work area

All maintenance personnel and others working in the area should be instructed on the nature of the work being performed. Working in confined spaces shall be avoided. Prior to the beginning of the work on the systems containing FLAMMABLE REFRIGERANTS or repairs to the REFRIGERATING SYSTEM, safety checks are necessary to ensure that the risk of ignition is minimized or.

Checking for the presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e., non-sparking, adequately sealed, or intrinsically safe.

Presence of fire extinguisher

If any hot work is to be performed on the refrigeration equipment or associated parts, appropriate fire extinguishing equipment shall be available. A chemical powder or CO₂ extinguisher should be available adjacent to the loading area.

No ignition sources

No person carrying out work in relation to a REFRIGERANT SYSTEM which involves exposing any pipe work, shall use any sources of ignition in such a manner that it may lead to the risk of fire or

explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which the refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment shall be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

Ensure that the area is in open air or adequately ventilated before breaking into the system or performing any hot work. Some degree of ventilation should be maintained during the period when work is being performed. Ventilation should safely disperse any refrigerant released and preferably expel it externally to the atmosphere.

Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. Every time, the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- A. The actual REFRIGERANT CHARGE is in accordance with the room size within which the refrigerant containing parts are installed.
- B. The ventilation machinery and outlets are operating adequately and are not obstructed.
- C. If an indirect refrigerant circuit is being used, the secondary circuit shall be checked for the presence of refrigerant.
- D. Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
- E. Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks of electronic devices.

Repair and maintenance of electrical components shall include initial safety checks and component inspection procedures. If there is a fault that may compromise safety, no electrical supply shall be connected to the circuit until it is satisfactorily resolved. If the fault cannot be corrected, Repair and maintenance of electrical components shall include initial safety checks and component inspection procedures. If there is a fault that may compromise safety, no electrical supply shall be

connected to the circuit until it is satisfactorily rectified. If the fault cannot be corrected immediately, but continued operation is necessary, a suitable temporary solution shall be used and communicated to the owner of the equipment so that all parties are informed.

Initial safety checks will include:

- a) That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking.
- b) That no live electrical components and wiring are exposed while charging, recovering or purging the system.
- c) That there is continuity of earth bonding.

Repair of sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Repair of intrinsically safe components

Intrinsically safe components are the only ones that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effect. The check shall also consider the effects of aging or continual vibration from sources such as compressors or fans.

Detection of flammable refrigerants

Under no circumstances shall potential ignition sources be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity might not be adequate, or might need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area). Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection liquids are also suitable for use with most refrigerants, but the use of detergents containing chlorine shall be avoided as the chlorine can react with the refrigerant and corrode the copper pipework.

NOTE: Examples of leak detection fluids are:

- Bubble method
- Fluorescent method agents

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of it shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

Removal and evacuation

When breaking into the refrigerant circuit to make repairs -or for any other purpose-, conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:

- a) Safely remove refrigerant following local and national regulations,
- b) Purge the circuit with inert gas;
- c) Evacuate (optional for A2L);
- d) Purge with inert gas (optional for A2L);
- e) Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times.

Compressed air or oxygen shall not be used to purge refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- a) Ensure that no contamination of the various refrigerants occurs when using the charging equipment. Hoses or lines should be kept as short as possible to minimize the amount of refrigerant they contain.
- b) Cylinders shall be kept in an appropriate position according to the instructions.
- c) Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- d) Label the system when charging is complete (if not already).
- e) Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging, but prior to commissioning. A follow-up leak test shall be carried out prior to leaving the site.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate the system electrically.
- c) Before attempting the procedure, ensure that:
 - a. Mechanical handling equipment is available, if required, for handling refrigerant cylinders
 - b. All personal protective equipment is available and being used correctly
 - c. The recovery process is supervised at the time by a competent person.
 - d. Recovery equipment and cylinders conform to appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate it accordance with instructions.
- h) Do not overfill cylinders (no more than 80% volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinder and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e., special cylinders for recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants, including, when applicable, FLAMMABLE REFRIGERANTS. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturers if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that FLAMMABLE REFRIGERANT does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Maintenance / Repair specific to HC refrigerant (R290 / R600)

- The maintenance of equipment with HC (R290 / R600a) must be performed by personnel with specific training in the use of flammable refrigerants.
- HC are refrigerants that present the danger of being asphyxiating and highly flammable.
- The maximum charge quantity established for each refrigeration system is 150 gr.
- To work with HC, special tools with electronic leak detector for HC are needed and it is recommended to use a safety plate warning about the prohibition of smoking or open flames.
- HCs do not have to be recovered (if the charge is < 150 g).
- Leak testing of HC equipment is similar to that of R134a or R404A equipment. A soap solution or an electronic leak detector that is specifically designed for combustible gas can be used. Oxygen-free dry nitrogen is also recommended. A halide leak detector cannot be used.
- R290/R600a must be purchased in refrigerant grade. R290, unlike standard propane, has very high purity and very low moisture content.
- It is prohibited to modify existing equipment for use with HC (R290/R600a).
- HC equipment is fitted with specific non-sparking refrigeration and electrical components.

Which gas to use?

Only HC with refrigerant grade should be used to service equipment.

Standard propane does not meet the purity and moisture content required for a refrigeration system.

R290 does not contain the odour additive that standard propane does.

Specific labelling for flammable gases

Infrico units with R290 carry this special labelling in the following places: rear left and right side.

DANGER – RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. TO BE REPAIRED ONLY BY TRAINED SERVICE PERSONNEL. DO NOT PUNCTURE REFRIGERANT TUBING.

DANGER – RISQUE D'INCENDIE OU D'EXPLOSION. RÉFRIGÉRANT INFLAMMABLE. À NE RÉPARER QUE PAR UN SERVICE TECHNIQUE SPÉCIALISÉ. NE PERFOREZ PAS LE CIRCUIT DE RÉFRIGÉRANT.



DANGER – RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. DO NOT USE MECHANICAL DEVICES TO DEFROST REFRIGERATOR. DO NOT PUNCTURE REFRIGERANT TUBING.

DANGER – RISQUE D'INCENDIE OU D'EXPLOSION. RÉFRIGÉRANT INFLAMMABLE. NE PAS UTILISER DES DISPOSITIFS MÉCANIQUES POUR DÉGIVRER LE RÉFRIGÉRATEUR. NE PAS PERFOREZ LE CIRCUIT DE RÉFRIGÉRANT.

Outside of the unit:

WARNING – RISK OF FIRE OR EXPLOSION. DISPOSE OF PROPERLY IN ACCORDANCE WITH FEDERAL OR LOCAL REGULATIONS. FLAMMABLE REFRIGERANT USED.

AVERTISSEMENT – RISQUE D'INCENDIE OU D'EXPLOSION. METTRE AU REBUT CONFORMÉMENT AUX RÈGLEMENTS FÉDÉRAUX OU LOCAUX. FLUIDE FRIGORIGÈNE UTILISÉ.

Inside of the unit, near the compressor:

DANGER – RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. CONSULT REPAIR MANUAL / OWNER'S GUIDE BEFORE ATTEMPTING TO SERVICE THIS PRODUCT. ALL SAFETY PRECAUTIONS MUST BE FOLLOWED.

AVERTISSEMENT – RISQUE D'INCENDIE OU D'EXPLOSION. FLUIDE FRIGORIGÈNE UTILISÉ. CONSULTER LE GUIDE DU PROPRIÉTAIRE OU LE MANUEL DE RÉPARATIONS AVANT D'ESSAYER D'INSTALLER OU DE RÉPARER CE PRODUIT. TOUTES LES PRÉCAUTIONS DE SÉCURITÉ DOIVENT ÊTRE SUIVIES.

On the appliance packaging if it is factory-charged:

DANGER – RISK OF FIRE OR EXPLOSION DUE TO FLAMMABLE REFRIGERANT USED. FOLLOW HANDLING INSTRUCTIONS CAREFULLY IN COMPLIANCE WITH NATIONAL REGULATIONS.

AVERTISSEMENT – RISQUE D'INCENDIE OU D'EXPLOSION DÙ À L'UTILISATION D'UN FLUIDE FRIGORIGÈNE. SUIVEZ ATTENTIVEMENT LES INSTRUCTIONS DE MANUTENTION CONFORMÉMENT AUX RÉGLEMENTS NATIONAUX.

Specific components for flammable gases

- Compressors are specific for R290.
- Expansion devices and capillaries must be calculated specifically for HC refrigerants.
- Electronic expansion valves are usually prepared for different refrigerants, including HC. However, it must be ensured that their electrical connection meets the requirements for use with HC.
- Most dehydrators used are compatible with HC.
- All electrical connectors must meet a non-sparking requirement.

All components used in Infrico R290 equipment meet the standards required for HC.

IRR-AN models

- The capacitor is located directly behind the lower front panel.
- Disconnect the power supply.
- Remove the lower grill assembly by removing the screws at the bottom corners. Carefully clean dirt from the condenser, using a vacuum cleaner or soft brush, never use an aluminium brush.
- Heavier dust accumulations may require compressed air to blow across the condenser coil.
- Finally, replace the front panel, tighten all screws and reconnect the power supply.



IRR-AGB models

On these models, the condenser coil is located behind the top front panel of the unit and is easily accessible without removing this panel. In case there is not enough space above the unit to clean the condenser, you can remove the front panel by removing the screws on its sides and then lift it up and out.

To clean the condenser, you should proceed as in the AN model.



Never use water for this cleaning procedure as water can damage the electrical system.

12.1. Cleaning procedure

CLEANING THE CABINET

- To clean the cabinet, the following instruction should be followed:
- Disconnect the unit from the power supply and remove all food product from inside.
- Open all doors and allow the cabinet to reach room temperature. Remove all accessories and clean them with a baking soda or mild soap and warm water solution. Dry all the accessories completely with a soft, clean cloth.
- Once the cabinet has reach room temperature, wash the entire cabinet inside and out with a baking soda or mild soap and warm water solution. Rinse thoroughly with clear water and dry with a soft, clean cloth. Failure to dry all surface completely may cause water stains. There are also stainless-steel cleaners available which can restore and preserve the finish of the steels protective layer.
- Return all accessories to their initial positions and plug the unit in.
- Early signs of stainless-steel breakdown can consist of small pits and cracks. If this has begun, star to apply stainless steel cleaners to restore the passivity of the steel.
- Many product foods have an acidic content which can attack stainless steel, such as mustard, mayonnaise, lemon juice, tomatoes and other vegetables.



NOTE: Never use steel pads, wire brushes or scrapers to clean the cabinet.



NOTE: Cleaning solutions need to be alkaline based or non-chloride cleaners. Any cleaner containing chlorides will damage the protective film of the stainless steel.

GASKETS MAINTENANCE

- Gaskets require regular cleaning to keep their elasticity, to maintain proper sealing and to prevent mildew build up. Gasket cleaning can be done with the use of warm soapy water. Avoid hard cleaners and sharp tools when cleaning gaskets.
- Gaskets can easily be replaced just pulling out of the groove in the door and new gaskets can be pressed back into place.



CLEANING THE CONDENSER COIL

The condenser coil must be checked periodically. The frequency of the cleaning depends on the operating environment. Air must be able to freely circulate through the condenser, so the surface of the condenser must be kept free of dirt and grease for proper system operation. Dirty condensers result in compressor failure and product loss. If the condenser coil is dirty or blocked, follow this instruction:

AN models

The condenser coil is located directly behind the lower front panel.

- Disconnect the power supply
- Take off lower grill assembly by removing the screws in lower corners. Carefully clean dirt from the condenser using a vacuum cleaner or soft brush; never use a wire brush.
- Heavier dust builds up may require compressed air to blow through the condenser coil.
- Finally, replace the front panel, tighten all screws and reconnect electrical power supply.



AGB models

In these models, the condenser coil is located behind the upper front panel of the cabinet, and it is easily accessible without removing this panel. In case there is not enough space above the unit to clean the condenser, you can take off the front panel by removing the screws on its sides and then lift it up and pull it out.

To clean the condenser, you must proceed as in the AN model.



WARNING: Never use water for this cleaning procedure as water can damage the electrical components located near or at the condenser coil.

DRAIN MAINTENANCE

Each unit has a drain located inside the unit which removes the condensation from the evaporator coil and evaporates it at an external condensate pan. If you notice excessive water accumulation on the inside of the unit, be sure the drain tube is connected from the evaporator housing to the condensate evaporator drain pan.

If water is collected underneath the unit you may want to check the condensate evaporator drain tube to be sure it is still located inside the drain pan.

Be sure all drain lines are free of obstructions, typically food product is found blocking drain lines causing water to back up and overflow the drain pans.

12.2. Spare Parts and Technical Service

WARNING: Make sure that the equipment is unplugged before cleaning or repairing it.

In case of failure, if the problem persists after you have carried out the indicated checks, “DO NOT MAKE ANY REPAIRS YOURSELF”. Contact our Technical Service. Always provide the cabinet model and serial number (located on the data plate, 15 digits).



FOR GENUINE FACTORY PARTS

& AUTHORIZED SERVICE

1-855-340-4637

service@infrico.com



NOTE: When a replacement part is required, always insist on factory authorized parts only.

13. TROUBLE SHOOTING CHART

Many operating problems are derived from causes that can be easily eliminated without the need to contact the Technical Department. The following pages shows a table with types of problems that may come up, their cause, and how to resolve them.

PROBLEM	POSSIBLE SOLUTION
Compressor will not start-no hum.	1.- Disconnect switch open. 2.- Blown fuse. 3.- Defective wiring. 4.- Overload protector tripped. 5.- Open control contacts (control may be defective, or unit location may be too cold). 6.- Defective overload protector. 7.- Low charge of freon-check for leaks.
Compressor will not start-no hums but cycles on overload.	1.- Low voltage. 2.- Unit wired incorrectly. 3.- Starting capacitor defective. 4.- Starting capacitor seal. 5.- Compressor motor defective. 6.- High head pressure. 7.- Bearing of pistons tight-low oil charge.
Compressors start but starting remains in circuit.	1.- Low voltage. 2.- Unit wired incorrectly. 3.- Starting capacitor seal. 4.- Running capacitor defective. 5.- Starting relay defective. 6.- High head pressure. 7.- Bearings of pistons tight-low oil charge.
Compressor starts and runs, but cycles on overload	1.- Low voltage. 2.- Running capacitor defective. 3.- Overload protector defective. 4.- High head pressure. 5.- Fan motor, pump, etc., wire to wrong of overload protector.

Compressor tries to start when thermostat closes but cuts out on overload, start after several attempts.	1.- Low voltage. 2.- Start capacitor defective. 3.- Overload protector defective. 4.- High head pressure. 5.- Fan motor, pump, etc., wire to wrong of overload protector.
Compressor tries to start when thermostat closes but cuts out on overload, start after several attempts.	1.- Low voltage. 2.- Low on oil. 3.- High head pressure. 4.- Starting relay points badly pitted. 5.- Starting capacitor weak. 6.- Air or non-condensable gases in system.
Compressor starts but immediately cuts out on overload	1.- Starting relay contacts points welded together. 2.- Starting capacitor defective. 3.- Compressor short cycles.
Starting relay burns out	1.- Low voltage. 2.- High voltage. 3.- Compressors short cycles. 4.- Incorrect running capacitor. 5.- Incorrect relay.
Running capacitors burn out	1.- Line voltage too high.
Head pressure to low	1.- Insufficient refrigerant charge. 2.- Leak in the system 3.- Cold location.

Head pressure to high	1.- Unit overcharged. 2.- Air or other non-condensable gases in system. 3.- Clogged condenser (air-cooled) 4.- Defective condenser fan motor. 5.- Unit location too hot. 6.- Restriction in expansion valve, strainer or drier. 7.- Discharge valve partially closed. 8.- Restriction in discharge line.
Compressor short cycles	1.- Control differential set too close. 2.- Refrigerant undercharge, check pressure control. 3.- Refrigerant overcharge. 4.- Discharge valve leaking. 5.- Cutting out on high pressure control, if used. 6.- Cutting out on overload protector because if tight bearings struck piston, high head pressure or restricted air-cooled condenser.
Running cycles too long, or unit operates continuously	1.- Insufficient refrigerant charge. 2.- Dirty or restricted condenser. 3.- Unit location too hot. 4.- Control contacts stuck. 5.- Air or other non-condensable gases in system. 6.- Expansion valve plugged or defective. 7.- Fixture doors left open too long. 8.- Insufficient, defective or water-logged insulation. 9.- Evaporated oil logged.
Noisy unit	1.- Compressor oil charge low. 2.- Fan cable on condenser or evaporator bent causing vibrations. 3.- Bearing on evaporator or condenser motors lose or worn. 4.- Tube rattles. 5.- Lose parts on condensing unit. 6.- Case is not level.

14. WARRANTY

Dear user:

You must receive the warranty certificate duly filled out within a maximum period of 20 days from the purchase date so that the equipment you have just purchased may benefit from the warranty specified in this document. Otherwise, this warranty manufactures date.

It is very important that you read the attached documentation carefully so that you have full knowledge of the use and care applicable to your equipment. This being the case, we are sure that you will be completely satisfied with its operation.

14.1. Two-years Parts & Labour Warranty

Infrico USA, Corp. ("Infrico") warrants to the original customer that the Infrico brand equipment sold hereunder, except for parts and accessories which carry the warranty of a supplier (the "Equipment") will be free from defects in material and factory workmanship under normal conditions of use and maintenance for a period of (2) two years from the Date of Installation (Warranty Commencement Date), but in no event to exceed (27) months from the Date of Shipment. Warranty is Not Transferable.

14.2. Warranty Coverage

If there is a defect in material or factory workmanship covered by this Warranty reported to Infrico during the period the applicable Warranty is in force and effect, Infrico will repair or replace, at Infrico's option, that part of the Equipment that has become defective. Infrico will cover labour cost within (2) years from the Warranty Commencement date or (27) months from shipment date, whichever occurs first. Infrico shall bear all labour costs in connection with the installation of these replacement parts, provided that, the installation is conducted by Infrico or its authorized representative. Charges for warranty travel time not to exceed (2) hours or up to (100) miles total. Any charges exceeding those stated herein must have prior authorization by Infrico.

14.3. Additional Four-year Compressor Part Warranty

In addition to the warranty set above, Infrico warrants the hermetically and semi-hermetically sealed compressor (part only) for an additional four (4) years based on the installation date. This warranty is for defects both in workmanship and material under the normal and proper use and maintenance service. The four (4) years extended warranty only applies to hermetically and semi-hermetically sealed parts of the compressor and does not apply to any other part or component, including, but not limited to cabinet, temperature control, refrigerant, motor starting equipment, fan assembly, or any other electrical or mechanical component.

Parts Warranty Coverage: Infrico warrants all new case parts produced or authorized by Infrico to be free from defects in material and workmanship for a period of (90) days from the Warranty Commencement Date. If any defect in material and workmanship is found to exist within the warranty period, Infrico will replace the defective part without charge. Defective parts become the property of Infrico.

Infrico will have no responsibility to honour claims received after the date the applicable Warranty expires. Notwithstanding the foregoing, any claim with reference to the Equipment or any parts therefore for any cause shall be deemed waived unless submitted by the User to Infrico within (30) days after the date the User discovered, or should have discovered, the claim. In connection with all claims under this Warranty, Infrico will have the right, at its own expense, to have its representatives inspect the Equipment at the User's premises and to request all of User's records pertaining to the Equipment to determine whether a defect exists, whether the conditions set forth in this Warranty have been satisfied, and whether or not the applicable Warranty is in effect.

14.4. Warranty conditions for the supplied products

- 1) The manufacturer guarantees the product and undertakes to rectify, at no charge, any defects observed due to faults or defects in the materials or production.
- 2) All products that have been modified and/or components subject to natural wear and tear, as well as defects resulting from non-compliance with the instructions for use, installation, or operation, or from uses not in keeping with the intended use of the product, from abnormal environmental factors, from unusual operating conditions, from overload, from inadequate cleaning or maintenance, or from those defects resulting from repairs or handling carried out by authorized services, or those caused by the use of accessories or spare parts not designated by the manufacturer, are excluded from the guarantee.
- 3) Users must adhere to the indications described in the instructions manual when starting up or storing the apparatus.
- 4) If the apparatus is not functioning correctly, users must make the checks indicated in the manual and, if the problem persists, contact their distributor. This certificate must be presented if it is necessary for the technical department to intervene.
- 5) This warranty exclusively pertains to the replacement of the faulty material, and under no circumstances may an exchange for another apparatus or an increase in the guarantee period be demanded. The replaced material that is under guarantee will remain on site for examination, with the purchaser bearing the costs of installation or replacement.
- 6) The return of any apparatus due to manufacturing defects or faults MUST BE PREVIOUSLY AUTHORISED. Otherwise, there will be no charge under any circumstances for any costs

and risks that may be derived from this process. Any apparatus that has been authorized for return by the manufacturer must be submitted with packaging the same as or similar to that which was used for the product when it was received.

- 7) Nobody is authorized to make any other concessions or accept on behalf of the manufacturer any commitment that does not comply with this guarantee.
- 8) If this warranty certificate is lost or mislaid, you must have express knowledge of it.
- 9) Any travelling, food, and workforce expenses of the technical department carrying out the repairs, including during the guarantee period of the apparatus, are not covered.
- 10) The time taken to repair the apparatus shall not constitute a motive for the purchaser to seek compensation of any kind or extend the guarantee period.
- 11) This guarantee shall be invalidated in the case of faults produced as a result of force majeure (weather and geological phenomena, fires, etc.) or those derived from improper or non-compliant installation of the apparatus (connection voltage, power supply fluctuations, electrical connection not conforming to instructions, etc.) or from manipulation of the nameplate or of the data included in this certificate.

14.5. Exclusions from & Conditions to Warranty Coverage

This Warranty does not cover parts or accessories, which (a) carry the warranty of a supplier or (b) are, abused.

14.6. Report for the Client

Please, complete the following report:

User: _____

Address: _____ Tel: _____

Town / City State: _____

Distributor: _____

Purchase date: _____

Model: _____ Serial No: _____

Compressor No: _____

Vendor Signature

Purchaser Signature

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User: _____

Address: _____ Tel: _____

Town / City State: _____

Distributor: _____

Purchase date: _____

Model: _____ Serial No: _____

Compressor No: _____

Vendor Signature

Purchaser Signature

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