



Blast chillers and shock freezers Infricool series

User manual and warranty



SERVICE AND INSTALLATION MANUAL

FOR INFRICOOL BLAST CHILLERS AND SHOCK FREEZERS

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1. GENERAL INFORMATION

This manual was made in an easy way so that you can know how our furniture works and how they should be maintained. A carefully reading is recommended, and it should be consulted in case of any doubt.

The manufacturer is not liable for damages to people or objects that may be caused by non-compliance with the prescriptions contained in this manual. To know all the advantages of this device, please read carefully before proceeding to install it. Anyone who uses this device is recommended to read this user manual. In case of any doubt consult your distributor.

This product has been manufactured under strict quality controls and meets all the requirements established by Infrico. Before leaving the factory, each unit has been tested, guaranteeing its quality. This equipment has been manufactured with recyclable materials, through a productive process that respects the environment.



WARNING! This device must only be used for the purpose described in this manual.



The electrical/electronic device must be managed at the end of its useful life by an authorized manager.

2. SAFETY PRECAUTIONS

Failure to observe the recommendations made by the present manual will be at the entire responsibility of the user. The main safety regulations are as follows:

- This unit must be properly installed and located in accordance with this manual before it is used.
- This unit has been designed for professional use only and should only be operated by qualified personnel.

- This unit must only be used for the purposes for which it was designed: chilling and freezing food products.
- This unit must not be used for products such as chemicals, medicines or blood products.
- Do not touch the unit with moist or wet hands or feet.
- Never operate the unit while barefoot.
- Before performing cleaning or maintenance operations, disconnect the machine from the power supply.
- Do not store or use flammable products near the machine.



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

3. SERIAL DATA PLATE

The technical data plate is a permanently affixed label in the interior of the equipments, which contains important electrical and refrigeration data about your product, as well as its model and serial number.

Infrico
CTRA CO-762 KM 2.5
LOS PIEDROS-LAS NAVAS
14900 LUCENA (SPAIN)
TEL:00 34 957 51 30 68

MODÈLE
IABT31S
EMB. EXPORT

N° DE SÉRIE
148840035180353

DATE DE FAB.
09/11/2018

L'APPAREIL EST CONFORME AUX NORMES UL STANDARD 471 ET NSF STD 7, ET CERTIFIÉ CAN/CSA STD C22 2 N° 120

QTE REFRIG.	GAZ REFRIG.	ILLUMIN.	RÉSIST.	VENTIL COND.	VENTIL EVAPO.	CIRCUIT -
1.1 lbs	R404A		0.25	0.42	0.86	115
PRESSIONS DESIGN BASSE	HAUTE					COMPRESSEUR
174.0	331.0					AMP - 9.2
INTENSITÉ COURANT ADMISSIBLE	VALEUR NOM MAX CONTRE LES SURINTENSITÉS	12.9				QTE - 1
		20				PHASE - 1
				60	60	HZ - 60
						LRA - 53
						TOTAL AMP - 10.6

CET APPAREIL EST DESTINÉ AU STOCKAGE ET À L'EXPOSITION DES PRODUITS EMBALLÉS UNIQUEMENT

4. RECEIVING AND INSPECTING THE EQUIPMENT

- All Infrico products are factory tested for performance and are free from defects when shipped.
- When you receive your device, it should be carefully examined in order to detect any possible damage caused 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. Under no condition may damaged unit be returned to Infrico without first obtaining written permission.

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

5. INSTALLATION

5.1. Location

This unit is intended for indoor use only.

Be sure the location chosen for your unit must be able to provide good air circulation for most efficient refrigeration.

Avoid locations near a heat source, such as ovens, fryers or heaters, as well as direct solar radiation where temperature can reach extreme values. Besides, do not select a location in an area where temperatures may drop below 55°F or increase up to more than 90°F.

It must allow enough space between the equipment and the side walls, so that the opening lock of doors at 120° can be used. The doors must be able to open a minimum of 90° in order to use the maximum available door width.

Furthermore, the floor at the final location must be strong enough to support the total weight of the device plus the maximum product load. Also, it must be levelled and free of vibration. Reinforce the floor if necessary.

5.2. Uncrating

These Infrico units are shipped from the factory on a wooden pallet and packaged in a wooden container. The wooden is attached to the wooden base with the use of large screws. These should be first removed to avoid scratching the unit when lifting off the crate.

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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.

5.3. Ventilation

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

It is recommended that the cabinet be installed no closer than 3" on sides and rear; and 27" on the front of the unit.

Restricting the air supply will generate an excessive heat load on the condensing unit and adversely affect its operating efficiency. Never obstruct the grill area in the front of the cabinet in any way.



27" minimum clearance
on the front of the unit in blast chillers
models

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

5.4. Levelling

It is extremely important that the cabinet is perfectly levelled 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.

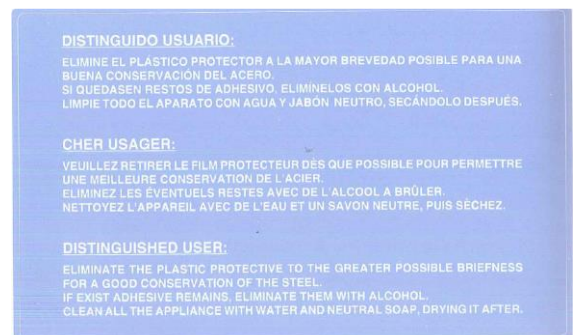
These models are supplied with adjustable legs. These must be adjusted until the unit keeps completely stable and levelled.

 **NOTE:** If the unit has to be placed on its back, make sure it stands upright for 24 hours before being powered up to assure oil return to compressor.

Casters in lieu of legs are supplied as an optional accessory for all our models. Casters are factory installed.

5.5. Initial cleaning procedure

 **NOTE:** This sticker shows the procedure to be followed for the device exterior conservation.



Before the startup and loading product inside of the device, you should retire the protective plastic layer that covers the furniture and cleaning it. If adhesive rests are left, they should be eliminated with alcohol. It is recommended to clean all stainless-steel surfaces of the furniture with warm water and a little neutral soap. After cleaning, a rinsed with abundant water and a drying with a soft cloth is recommended.

 **NOTE:** Never use harsh or abrasive cleaners, concentrated detergents, solvents or chemicals to clean the equipment.

6. ELECTRICAL INSTRUCTIONS.

The supply voltage should be checked before connection to assure that proper voltage for the cabinet wiring is available. To determine correct unit voltage, please refer to the serial data plate located on an inner wall of the unit. Verify that this information exactly matches the electrical characteristics at the installation location.

 **NOTE:** This sticker is placed on the power supply wire. It prevents us from the electrical risk of the device.

Warning / Attention: 115V 60Hz
Before connecting, read the manual
Avant de connecter, lire le manuel

Warning / Attention: 115V 60Hz
Before connecting, read the manual
Avant de connecter, lire le manuel

 **NOTE:** Infrico requires that a sole use circuit be dedicated for the unit. Failure to do so voids warranty.

 **NOTE:** The unit is designed to operate with a voltage fluctuation of 5% of the voltage indicated on the cabinet serial data plate. Burnout of the compressor due to exceeding the high or low voltage limits will automatically void the factory warranty.

Units are provided with a U.L. approved power cord and plug which is factory installed:

- Model IABT3 is provided with a NEMA 5-15P cord and plug.
- Model IABT5 are provided with a NEMA 5-20P cord and plug.

If you do not have the right outlet have a certified electrician install the correct power source.



115 / 60 / 1 NEMA 5-15P



115 / 60 / 1 NEMA 5-20P





WARNING! Any alterations to this cord and plug could cause an electrical hazard and will void the factory warranty. Furthermore, never use an adapter plug.



WARNING! Infrico will not warranty any units that are connected to an extension cord.

7. STARTUP PROCEDURE

After the cabinet has been installed, levelled, cleaned and electrically connected in accordance with this manual, it is ready to operate. Before using the appliance for the first time, it is recommended to run an empty cycle to precool the cabinet and check the correct 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.

All cabinets must be given enough time to reach normal operating temperature before placing any product inside cabinet or pans (if equipped). Continuous opening and closing of the doors will hamper the unit's ability to maintain optimum refrigeration performance.



NOTE: Before loading product, we recommend to run the unit empty during 24 hours.



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

8. DIGITAL CONTROLLER

8.1. Functions

Blast-chilling cycles are the main purpose of the temperature blast-chiller, and they can be divided in two categories: blast chillers cycles and shock freezing cycles.

A blast chiller cycle significantly reduces the time that food is between the critical temperature interval from 10°C (+50°F) to 65 °C (+150°F), where there is a high probability of bacteria proliferation.

A shock chiller cycle, on the other hand, tends to reduce the ice microcrystals formation inside the frozen product. This microcrystal, when formed, affects the organoleptic properties of the food.

Standard values for these cycles are the following:

	Blast Chillers	Shock Freezing
Initial product temperature	70°C (158°F)	70°C (158°F)
Final product temperature	3°C (37°F)	-18°C (0°F)
Duration	90 min	240 min

Cycles can be time-defined or temperature-defined. If it is time-defined, duration is fixed, while a temperature-defined cycle ends when the internal temperature of the product reaches the defined one. In both cases there is a control probe (chamber or product) and a temperature gauge inside the blast-chiller, used to control the compressor.

A cycle can be defined as “soft” or “hard”; soft and hard meanings differ depending on the type of cycle (refrigeration cycle or freezing cycle).

If we choose “soft” in a refrigeration cycle, the blast-chiller will work for the whole duration of the cycle considering the final temperature of the blast-chill as a target (usually around 0°C (32°F)); on the other hand, if the cycle is “hard”, the blast-chiller will work with two different targets for the blast-chilling, one of them lower (around -20°C (-4°F)), being applied until product temperature reaches that target value or a pre-established time expires, and a second target, higher (about 0°C (32°F)), being applied until the end of the cycle.

For freezing cycles, if we choose “soft”, the blast-chiller will work with two different targets, the first one higher (around 0°C (32°F)) being applied until the product (internally) reaches the target temperature or a pre-established time expires; if we choose the “hard” cycle, the blast-chiller works always considering the final target temperature of the cycle (about -35°C (-30°F)).

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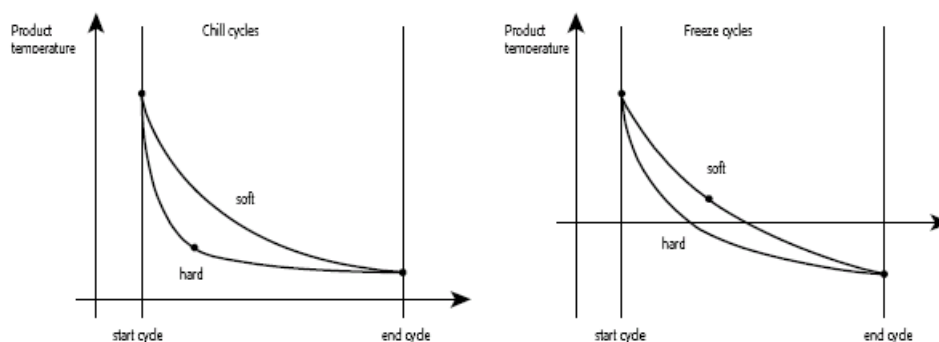
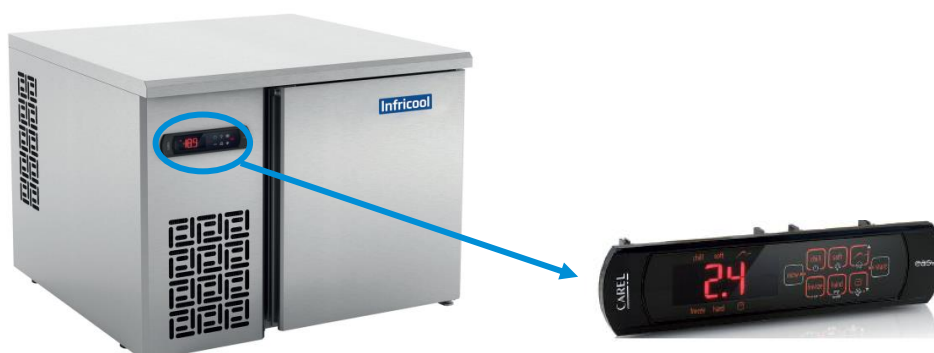


Fig. 4.1 Chill cycles (hard and soft) and freeze cycles (hard and soft).

At the end of the cycle a preservation phase is set, where the blast-chiller will reach and keep the preservation target temperature inside the chamber.

The end of the cycle is indicated with an audible whistle.

This units are equipped with a digital temperature controller located in the upper frontal panel. The controller is equipped with a very powerfull display, with 3 digits, decimal dots and signs. The keyboard assures an easy use and allows direct access to different operations functions.



8.2. Display buttons meaning

PRESERVATION		BLAST-CHILLING
Preservation is the basic mode of work. The thermostat usually starts with this mode when plugged in.		Blasch-chilling cycle can only be started manually; at the end of every cycle preservation mode is automatically set.
Display shows: segundo parámetro / tl (second parameter / tl). Default: sonda1 (probe1).	visual display	*When running a temperature-defined cycle: product probe. *When running a time-defined cycle: remaining time in minutes. ❄ For any type of cycle this sign is switched on.

If pressed for more than 3 sec., unit is activated/deactivated.		If pressed for more than 2 sec., cycle is permanently finished, and preservation starts. *if it is a CHILL-type cycle: setpoint=2°C (36°F). *if it is a FREEZE-type cycle: setpoint=-20°C (-4°F).
If pressed for more than 1 sec., auxiliary output 2 is activated/deactivated. Internal lighting: if exists, this button turns it on/off.		If pressed for more than 1 sec., auxiliary output 2 is activated/deactivated. Internal lighting: if exists, this button turns it on/off.
Enters the HACCP alarms visualization and cancellation menu.		Enters the HACCP alarms visualization and cancellation menu.
If pressed for more than 1 sec., auxiliary output 1 is activated/deactivated. Core probe: in any case, heating procedure is not started.	aux	If pressed for more than 1 sec., auxiliary output 1 is activated/deactivated. Core probe: in any case, heating procedure is not started.
If pressed for more than 3 sec., it gives access to password configuration for the access to type "F" (frequent) or "C" (configuration) parameters.	prg mute	Parameters modification is not enabled.
Silences the acoustic alarm (buzzing) and deactivates the alarm relay.		Silences the acoustic alarm (buzzing) and deactivates the alarm relay.
If pressed for more than 3 sec., a manual defrost is activated/deactivated.		Defrost button is not enabled.
If pressed for more than 1 sec., it gives access to the blast-chilling cycle selection menu.	new ►►	Pressing the "new" button, the display shows, for 3 seconds, the last cycle selected. If pressing again, the display shows, for 3 seconds, the air temperature.
Start-up of selected cycle. See "new" button.	►► start	If pressed, stand-by cycle is activated. *Stand-by is indicated by a "Stb" (maximum time of stand-by function) blinking. *Compressors and fans turned-off. If pressed during stand-by, the cycle continuous from the point when it was suspended. The "Stb" parameter is used to limit the "stand-by" time: if stand-by is longer than "Stb", the cycle restarts automatically from the beginning.

8.3. Blast-chilling cycle selection



Step 1.

Enter the cycle selection menu: press the NEW button for 1 second.

The display shows the last completed cycle. This cycle can be launched immediately: go to step 3.

Step 2.

Blast-chilling cycle selection: press selection buttons.

Pressing NEW button sends to step 1. Each individual selection is visualized on the display with its corresponding “o”. See table below.

	PHASE 1			PHASE 2			AUTOMATIC	
	ambient	product	time	ambient	product	time	defrost before conservation	conservation ambient setpoint
	32°F	38°F	90 min	→			NO	36°F
	-4°F	50°F	60 min	32°F	38°F	30 min	NO	36°F
	32°F	-	90 min	→			NO	36°F
	-4°F	-	60 min	32°F	-	30 min	NO	36°F
	32°F	38°F	120 min	-31°F	-0.4°F	120 min	YES	-4°F
	-31°F	-0.4°F	240 min	→			YES	-4°F
	32°F	-	120 min	-31°F	-	120 min	YES	-4°F
	-31°F	-	240 min	→			YES	-4°F

Step 3.

Start-up of the selected cycle: press START button for 2 seconds.

For cancelling the current selection: keep 10 seconds without pressing any button.

8.4. Display signs

Sign	Function	Normal functioning		
		ON	OFF	Blinking
	COMPRESSOR	Turned-on compressor	Turned-off compressor	Required compressor
	FAN	Turned-on fan	Turned-off fan	Required fan
	DEFROST	Defrost on	Defrost off	Required defrost
	AUX	Auxiliary output AUX activated	Auxiliary output AUX deactivated	Demister heating function activated
	ALARM	External alarm delayed (before activating the continuous cycle function, “A7”)	No alarm activated	Alarms and malfunctions

	CLOCK	Startup-clock: ON if RTC is activated	At least one timed defrost is configured.	Clock alarm
	LIGHT	LIGHT auxiliary output is activated	LIGHT auxiliary output is deactivated	Demister heating function activated
	ASSISTANCE		No malfunction	malfunction (example: EEPROM error or broken down probes)
	HACCP	Not enabled function	Enabled function (HA and/or HF)	HACCP alarm memorised
	BLAST-CHILLING CYCLE IN PROCESS	Blast-chilling cycle in process	Preservation in process	

8.5. HACCP function

This controller complies with HACCP standards because it enables the temperature monitoring of the preserved foodstuff.

“HA” alarm = maximum threshold exceeded: up to three HA events (HA, HA1, HA2) respectively from the most recent one (HA) to the oldest one (HA2) and a HAn sign that shows the number of HA events intervened are memorised.

“HF” alarm = voltage shortage for more than 1 minute or AH maximum threshold exceeded: up to three HF events (HF, HF1, HF2) respectively from the most recent one (HF) to the oldest one (HF2) and a HFn sign that shows the number of HF events intervened are memorised.

HA/HF alarm setting: AH parameter (high temperature threshold); Ad and Htd (Ad + Htd = HACCP alarm delay).

Details display: press START button to access to HA or HF parameters and use UP and DOWN buttons to navigate.

HACCP alarm cancellation: press for 5 sec. DOWN and START buttons from inside the menu, a “res” message will indicate that the cancellation of the activated alarm is done. For cancelling all the memorised alarms, press for 5 sec. the combination of these three buttons: DOWN + START + UP.

8.6. Defrost

Infricoool blast-chillers have an electronic controller that programs the defrost when it is in preservation mode. Defrost cycles take place automatically and are started and stopped by time. The defrost program is preset for making cycles each 8 hour.

These models defrost stopping the compressor, and the evaporator fan works during the defrost cycle.

How to make a manual defrost

If a manual defrost cycle is necessary, if right temperature conditions exist, press the button for 5 seconds.



8.7. Loading product

- To achieve quickest chill times, product should be loaded into pans to a depth of no greater than 50 mm. Do not load the unit beyond the quantity recommended by the manufacturer.
- Ensure that there is enough clearance between trays to enable free air circulation. If the cabinet is not completely full, distribute the trays and foods evenly throughout the available space.
- For most accurate results, food probes should be used. These needs to be properly placed in the centre of the thickest part of the product to insure an accurate temperature reading. Some products are not suitable for use of food probes. In this case, these products should be chilled by time and the correct chill time should be established by the operator based upon product testing.
- The probe must be cleaned and sanitised before each new cycle to prevent inadvertent contamination.
- Some products should be covered when chilling. Products which require long chilling times may experience surface drying if they are not covered. Liquid products are highly recommended to be covered to prevent spillage. Finally, some foods are particularly vulnerable to drying (rice, pasta) so should always be covered.
- In case you must cover the trays, avoid using insulating covers. The more the product is insulated, the more time is required for chilling or freezing.

9. MAINTENANCE, CARE AND CLEANING

9.1. 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 products 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 outside 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 steel's surface 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, start to apply stainless steel cleaners in order 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.**

Door gaskets maintenance



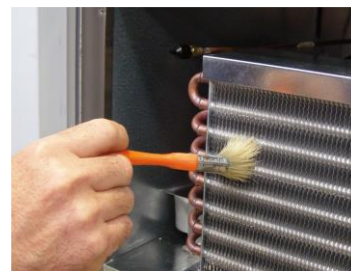
- Door gaskets require a regular cleaning that protects its elasticity, in order to guarantee an appropriate closure and prevent from the growth of molds. Door gaskets can be cleaned with soapy water. Avoid the use of strong cleaners and sharp utensils.
- Door gaskets can be easily removed by removing them from the edge of the door and replacing them by pressing them against it.

Cleaning the condenser

The condenser, which is located directly behind the rear panel grill, must be checked periodically. The frequency of 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 fat for proper

system operation. Dirty condensers result in compressor failure and product loss. If the condenser coil is dirty or blocked, follow this instruction:

- Disconnect the power supply.
- Remove the lower grill on the rear of the cabinet.
- Once that condenser's surface is free, it should be cleaned using a soft brush or a vacuum. Never use a wire brush.
- Heavier dust builds up may require compressed air to blow through the condenser.
- Finally, replace the lower rear panel and reconnect electrical power supply.



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

Doors / hinges maintenance

With the passage of time and the use of the doors, the hinges can move slightly. If you notice that the door is starting to misalign, you must adjust the screws that attach the hinge brackets to the cabinet.

9.2. Parts and Service

 **WARNING!:** Make sure that the appliance is disconnected from the supply before carrying out any maintenance or repair operation. These jobs must be carried out by qualified personnel.

After performing the pertinent checks, **DO NOT MAKE YOURSELF ANY REPAIRS**. Contact your Technical Assistance Service, providing the model and serial number of the device (located on the data plate, 15 digits).

In case you do not know any technical assistance company in your area, contact our company to receive a list of companies that can offer an adequate technical service.

Infrico Technical Assistance Service (SAT)

Tel: 00 34 957 51 14 68

Fax: 00 34 957 59 51 06

Email: sat@infrico.com

www.infrico.com



NOTE: If you need a spare part, always insist on factory authorized spare parts.

10. 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 page shows a table with types of problems that may come up, their cause, and how to resolve them.

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
The apparatus does not work	1. It is not plugged into the electrical socket. 2. No electrical current is reaching the plug because the fuse has blown or the automatic power limiter has been tripped.	1. Insert the plug into the electrical socket and check that there is electrical current. 2. Replace the fuse or reconnect the automatic power limiter.
The device is not cooling very much	1. Check the cut-off temperature in the controller. 2. The door has not been closed properly or has been opened very frequently. 3. The device's ventilation grilles have been obstructed. 4. Condenser is dirty. 5. The device is directly exposed to sunlight or a heat source.	1. Reduce the cut-off temperature. 2. Ensure that the door is not kept open for long. 3. Keep these areas unobstructed as indicated in the "installation" section of this manual. 4. Clean with compressed air or a hard-bristle brush (not a steel one). 5. Move the refrigerator to a different location or shield it from the heat sources.
Noisy operation	1. The device is not properly levelled. 2. Some of the internal tubes are	1. Level it as indicated in the "installation" of this manual.

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	touching. 3. Loose screws in a particular part. 4. Condenser or evaporator fan causes vibrations. 5. Too low oil charge in compressor. 6. Lose parts on condensing unit.	2. Separate the tubes in contact. 3,6. Tighten the loose screws. 4. Level the equipment and tighten any loose screw. 5. If equipment was layed down on any of its faces, remain it 24 hours in an upright position without plugging it in, in order that oil returns to compressor. Also check for oil leaks.
The device creates too much ice in the evaporator	1. Doors not properly closed. 2. Doors opened too often. 3. It has not been defrosted.	1,2. Ensure that the door is not kept open for long. 3. Defrost the device.
Compressor does not start working	1. Disconnect switch open. 2. Blown fuse. 3. Defective wiring. 4. Overload protector tripped. 5. Open control contacts. 6. Defective relay. 7. Low gas charge in the system.	1. Close the disconnect switch. 2. Replace the blown fuse. 3. Check electrical wiring. 4. Check if there is an unusual low voltage in the power point. 5. Control may be defective, or unit location may be too cold. 6. Replace the relay. 7. Check for leaks.
Compressor does work, but stops on overload	1. Low voltage. 2. Defective unit wire. 3. Starting capacitor defective. 4. Defective compressor.	1. Check if there is an abnormal low voltage at the power point. 2. Check electrical wiring and installation. 3. Replace starting capacitor. 4. Replace compressor.
High head pressure	1. Overcharged with hot product unit. 2. Air or non-condensable gases in system. 3. Dirty condenser. 4. Defective condenser fan. 5. Unit location too hot. 6. Restriction in expansion valve, strainer. 7. Discharge valve partially closed.	1. Check product temperature, and keep it out of the equipment for its chilling, if it is very hot. 2. Vacuum seal the system. 3. Clean the condenser. 4. Replace the condenser fan. 5. Move the unit away from very hot locations.

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	8. Discharge line obstructed.	6. Adjust expansion valve or strainer. 7. Adjust discharge valve. 8. Check and adjust discharge line.
Low head pressure	1. Insufficient refrigerant charge. 2. Leak in the system. 3. Cold unit location.	1. Check for possible refrigerant gas leaks. 2. Repair system leaks. 3. Move the unit away from very cold locations.
Compressor short cycles	1. Differential control set too close. 2. Refrigerant undercharge. 3. Refrigerant overcharge. 4. Discharge valve leaking. 5. Cutting out on high pressure control. 6. Dirty condenser.	1. Adjust the differential with the controller. 2. Check pressure control. 3. Adjust refrigerant level. 4. Replace discharge valve. 5. Adjust refrigerant charge to avoid overpressures. 6. Clean the condenser.

11. WARRANTY MANAGEMENT

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.

11.1. Two years parts & labor 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.

11.2. 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 labor cost within (2) two years from the Warranty Commencement date or (27) months from shipment date, whichever occurs first. Infrico shall bear all labor 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.

11.3. Additional four-year compressor parte 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 no 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.

11.4. Warranty certificate

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 unauthorised 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 authorised 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.

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7. Nobody is authorised 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 warranty 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.

11.5. Exclusions from and conditions to warranty coverage

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

11.6. Report for the client

Please, complete the following report:

User: _____

Address: _____ Tel: _____

Postal code / Town: _____

Distributor: _____

Purchase date: _____

Model: _____ Serial No: _____

Compressor No: _____

Seller Signature

Purchaser Signature

FOR THE CLIENT

Ask your distributor to fill in:

User: _____

Address: _____ Tel: _____

Postal code / Town: _____

Distributor: _____

Purchase date: _____

Model: _____ Serial No: _____

Compressor No: _____

Seller Signature

Purchaser Signature

FOR THE DISTRIBUTOR

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Infrico USA, Corp.
 1409 N.W. 84th Avenue
 Doral, Florida 33126
 1.305.777.9599 office
 1.305.777.9598 fax
 sales@infrico.com

www.infrico.us
 USA



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