

TECHNICAL MANUAL

Solid Ice Cubes R454C



SPRAY SYSTEM
SISTEMA DE DUCHAS

HOW TO PROPERLY USE THIS MANUAL

DESCRIPTION OF CONTENTS

This manual has been created to provide the installer technician with information to carry out a proper installation and effective maintenance of the machine.

Additionally, the user will find in the document a section referring to the causes of potential incidents, as well as complete information on how to resolve them.

In this regard, it is recommended to keep the manual in a safe place to address issues related to the operation of the machine throughout its entire lifespan.

RECEPTION AND INSTALLATION

The installer technician responsible for the reception and installation will find in the first part of this document the keys to correctly connect the machine to the electrical network, water supply, and drainage, as well as the conditions and limitations. Additionally, this manual provides complete information about the installation of various stacked equipment.

OPERATION

The document has been prepared so that anyone can easily understand the principle of operation of the machine and quickly visualize each of its states. Furthermore, the manual provides a valuable guide regarding the different menus and meticulously explains each of the display messages in a technical annex located at the end.

SPECIFICATIONS AND REGULATIONS

The user of the manual can always consult technical information related to the machine's parameters, production ranges, pressure switch regulations, or electrical, water, and refrigerant load consumption.

MAINTENANCE AND CLEANING

In order for this document to become a complete guide for the installer, a section with instructions for periodic maintenance and cleaning has been included, as well as a detailed explanation of how to clean each of the elements. It is essential to refer to this manual to ensure the correct lifespan of the machine.

INCIDENT RESOLUTION

The user has a table to resolve the most common problems and provide customer service. It is a scheme for diagnosing faults with the most likely solutions.

QUALITY PARAMETERS AND CUSTOMER SERVICE

This machine has been manufactured in strict compliance with all quality requirements. In this regard, in case of any incident, you can contact the company that installed the machine or the Customer Service of the manufacturing company:

P.I. Sector 13. Avda. dels Hostalers, 2 46394 Ribarroja del Turia. Valencia. Spain

0034961667639/ Hours: From 08:00 to 19:00.

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1. INTRODUCTION

Thank you for purchasing an ice cube machine. You have bought one of the most reliable ice machines on the market today.

Please read the instructions contained in this manual carefully, as they contain important information regarding safety during installation, use, and maintenance.

1.1. WARNINGS

This appliance is intended for use in professional and similar applications.

- The installation of this equipment must be carried out by the Technical Assistance department.
- Always place the plug in a location that allows easy access to it.
- When placing the appliance, ensure that the cable is not caught or damaged.
- Do not place power strips or power sources behind the appliance.
- Always disconnect the machine BEFORE cleaning it or performing any type of maintenance task.
- Any modifications needed to the electrical installation for the machine to connect properly must be carried out exclusively by qualified personnel.
- Do not use for any purpose other than the production of ice from drinking water.
- Modifying this machine is an extremely dangerous operation that voids all warranties.
- Device not suitable for use by persons (including children) with physical, sensory, or mental problems, or by individuals who do not have sufficient experience or knowledge, unless they are under the supervision of a responsible person for their safety, or this person has given them instructions on the proper use of the device. Do not allow children to play with the device.
- Do not allow children to play near the equipment.
- Machine not suitable for outdoor use or in the rain.
- Use only with potable water. Refer to section 3 of this manual.
- This machine must be anchored to the wall to prevent accidents or damage to the machine itself. This machine must be anchored to the wall in accordance with local or national regulations, as applicable. The manufacturer will not be liable for any damages caused by lack of anchoring in the installation.
- To achieve maximum efficiency and proper operation from the machine, the manufacturer's instructions must be followed, especially those related to maintenance and cleaning, which should only be performed by qualified personnel.
- This equipment must be installed with appropriate return flow protection to comply with applicable codes.

To ensure the proper functioning and efficiency of this equipment, it is extremely important to follow the manufacturer's recommendations, especially those related to cleaning and maintenance operations, which should only be performed by qualified personnel.

- Do not use means to accelerate the defrosting process or to clean that are not recommended by the manufacturer.
- The appliance must be stored in a room without continuously operating ignition sources (for example: open flames, gas appliances, or electric heaters).
- Do not puncture or burn it.
- Please note that refrigerants may be odorless.

WARNING: *Handling the machine by unqualified personnel can not only cause serious damage to it but is also dangerous. In case of malfunction, contact your dealer. We recommend always using original spare parts.*

The company reserves the right to modify both specifications and design without prior notice.

PLEASE NOTE THAT THE WARRANTY DOES NOT INCLUDE THE MAINTENANCE OR CLEANING OF THE MACHINE AND, THEREFORE, THE INSTALLER WILL BILL FOR THEM SEPARATELY.



This signal indicates that the machine should only be connected to the potable water supply.



This signal indicates "Fire hazard/Flammable material" due to the use of flammable refrigerant.

In the case of compression-type appliances that use flammable refrigerant, the following warnings must also be taken into account:

- Keep ventilation openings clear, whether it is a unit with a casing or built-in.
- Do not use mechanical devices or any other means to accelerate the defrosting process; only use those recommended by the manufacturer.
- Do not damage the refrigeration circuit.
- Do not use electrical appliances inside the food compartments of the unit, unless they are of the type recommended by the manufacturer.
- Do not store explosive substances in the unit, such as aerosol containers with flammable propellant.

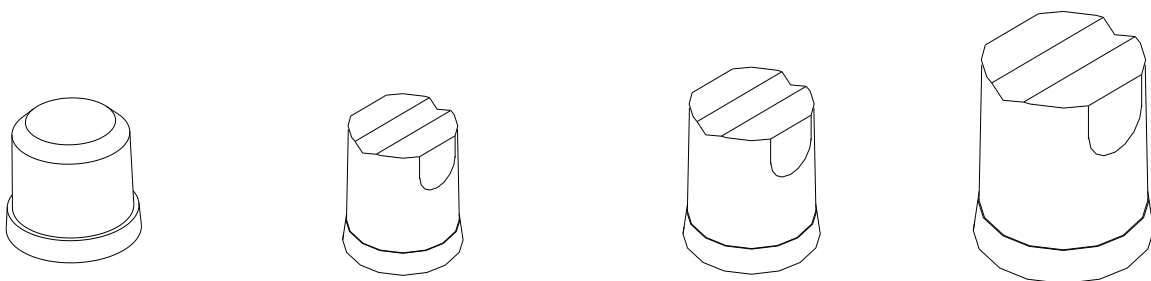
In the event of a refrigerant leak:

- Avoid any type of flame near the appliance.
- Do not turn on, turn off, plug in, or unplug the appliance.
- Immediately ventilate the area where the device is located by opening doors or windows.
- Call an authorized technical service.

1.2 MACHINE DESCRIPTION

The most notable features are:

- Modular machine.
- Display with a 16x2 character LCD screen.
- Integrated cleaning system in the electronic program.
- Stainless steel body AISI 304.
- Anti-lock injectors installed in 3 rotary collectors.
- Pumps without seals (2).
- High/low pressure safety pressure switch.
- Tropicalized machine. Prepared to work up to 43°C.
- TRANSPARENT CUBES with most of the tap water.



2.MACHINE RECEIPT

Inspect the packaging externally. If it appears broken or damaged, CLAIM TO THE CARRIER.

To determine if the machine has damages, UNPACK IT IN THE PRESENCE OF THE CARRIER and document any damages the machine may have in the receipt document or in a separate written note. Since May 1, 1998, we comply with European regulations on the management of Packaging and Packaging waste, placing the green dot label on the packaging.

Always record the machine number and model. This number is printed in three places:

2.1. PACKAGING

On the outside, there is a label with the manufacturing number.(Image I)



Image I

2.2. OUTSIDE OF THE EQUIPMENT

It is located on the back, on a label similar to the previous one.

2.3. FEATURES PLATE

It is located at the back of the machine.

Check that the following items are inside the machine:

- Manual.
- Warranty label and serial number.
- Installation kit, consisting of a 3/4 gas connection and a filter gasket.

ITV Ice Makers				S/N: 2601001354727	
ESB40632291					
CD: 13400L					
GALA MR400A 400/50/III R454C					
Voit.	Ph.	Hz.	A.		
380-400	~ 3N	50	7,65		16
Ref.	B.	w.	clas.		
R454C	1100	3745	T		
condensacion-condensation-kondensation			Made in Spain/EU		
AIRE-AIR-LUFT					
					

WARNING: ALL PACKAGING ELEMENTS (PLASTIC BAGS, CARDBOARD BOXES, AND WOODEN PALLETS) MUST NOT BE LEFT WITHIN REACH OF CHILDREN AS THEY ARE A POTENTIAL SOURCE OF DANGER.

3. INSTALLATION

THIS ICE MAKER IS NOT DESIGNED FOR OUTDOOR USE

Incorrect installation of the equipment may cause damage to persons, animals, or property, for which the manufacturer will not be held responsible.

3.1. SITE CONDITIONS

ATTENTION: The machines are designed to operate with ambient temperatures between 10°C and 43°C, and with water inlet temperatures ranging from 5°C to 35°C.

Below the minimum temperatures, there may be difficulties in the release of the ice cubes. Above the maximum temperatures, the lifespan of the compressor is shortened and production decreases significantly.

Do not place anything on top of the ice maker or in front of the front grills.

3.2. WATER AND DRAINAGE

The quality of the water significantly affects the appearance, hardness, and taste of the ice, as well as the water condensates in the life of the condenser.

This equipment must be installed with adequate backflow protection to comply with applicable codes.

The machine has a double water circuit, one for condensing the refrigerant in the condenser (in case the machine is of the water-cooled type) and another for ice formation.

a) Water impurities: The large ones are retained by the filters that accompany each machine. Their cleaning will be more or less periodic depending on the purity of the water. For small impurities, we recommend installing a 5-micron filter.

b) Hard water: The ice will come out less compact and the cubes may stick together. It is possible that cubes with white spots will appear. The machine will form limescale deposits that can interfere with its proper functioning. Water-cooled machines may end up with a blocked or poorly performing condenser. It is advisable to install a water filtration system to prevent scaling. A polyphosphate filter is recommended.

c) Highly chlorinated water: The ice may taste like bleach (chlorine). To eliminate this taste, an activated carbon filter can be installed.

Keep in mind that water may be received with all three cases simultaneously.

d) High purity water: Production may decrease by up to 10%.

3.3. CONNECTION TO THE WATER NETWORK

The quality of the water significantly affects the appearance, hardness, and taste of the ice, as well as the water condensates in the life of the condenser.

Use the flexible connection (length 1.3 m) with the two filter joints supplied with the machine. We advise against using taps with two outlets and two valves, as they may accidentally close the rear,

leaving the machine without water. The pressure must be between 1 and 6 Bar. If the pressures exceed these values, install the necessary corrective elements.

It is important that the water line does not pass near heat sources, or that the flexible connection or the filter receives hot air from the machine. This would cause production to decrease as the water would heat up.

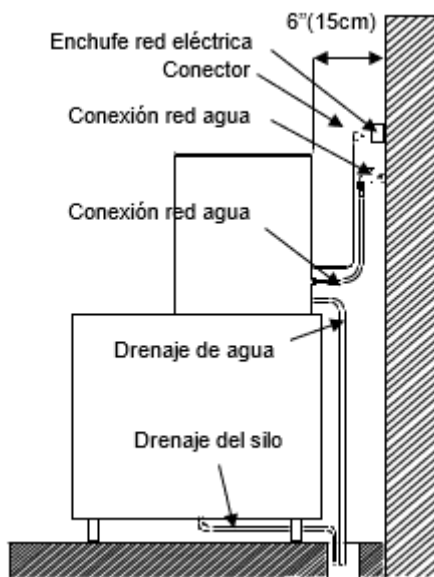
The machine has a double water circuit, one for condensing the refrigerant in the condenser (in case the machine is of the water-cooled type) and another for ice formation.

This equipment must be installed with adequate backflow protection to comply with applicable codes.

3.4. DRAIN CONNECTION

The drain must be located lower than the machine, at least 150 mm.

To avoid bad odors, prevent the installation of a siphon. The drain pipe should have an inner diameter of 60 mm and a minimum slope of 3 cm per meter.



3.5. ELECTRICAL CONNECTION

THIS DEVICE MUST BE GROUNDED. To avoid possible electric shocks to people or damage to the equipment, the manufacturer must be grounded according to local and/or national regulations and legislation in each case.

THE MANUFACTURER WILL NOT BE HELD RESPONSIBLE FOR DAMAGES CAUSED BY THE LACK OF GROUNDING OF THE INSTALLATION.

The machine is supplied with a 1.5 m long cable. If the power cable is damaged, it must be replaced with a special cable or set to be provided by the manufacturer or the after-sales service.

The machine should be placed in such a way that there is a minimum space between the back and the wall to allow easy and safe access to the cable plug.

It is advisable to install a switch and the appropriate fuses. The voltage and current are marked on the rating plate. Variations in voltage exceeding 10% of that indicated on the plate may cause malfunctions or prevent the machine from starting.

The line to the base of the plug must have a cross-section suitable for the current indicated on the plate.

Check that the voltage of the network and that indicated on the rating plate are the same.

The electronic board has a button cell to keep the time. When installing, remove the protective plastic from the battery (the board is located at the top, behind the display; by removing two screws behind the upper grille, it can be pulled out to access the electronic board box).

3.6. STACKING KIT

In case 2 machines are stacked, a stacking kit is supplied consisting of the following items:

Reference	Description	Units	Comments
8141	STACKING OUTLET	1	Outlet assembly (Detail B)

8823	STACKING RAMP-PLATE ASSEMBLY	1	Assembly of ice drop ramps 3x1mm2 interconnection hose for machines
8824	STACKING RAMP TEMPLATE	1	Assembly of ice drop ramps 3x1mm2 interconnection hose for machines
8145	STACKING CABLE KIT	1	Assembly of ice drop ramps 3x1mm2 interconnection hose for machines
2452	DIN 127 M-8 GROVER WASHER ZINC	4	Mounting one machine on top of another (Detail A)
2515	DIN 9021 M-8X23 WASHER ZINC	4	Mounting one machine on top of another (Detail A)
8142	STACKING SPACER	4	Mounting one machine on top of another (Detail A)
285	DIN 934 M-8 NUT ZINC	4	Mounting one machine on top of another (Detail A)
722	DIN 912 M-8X50 ZINC PLATED BOLT	4	Mounting one machine on top of another (Detail A)
244	DIN 7981 2.9X9.5 STAINLESS STEEL BOLT	2	Outlet assembly (Detail B)
302	4X10 STAINLESS STEEL SCREW	3	Mounting one machine on top of another (Detail A)

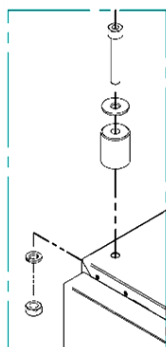
To stack machines, we must make some modifications to the electrical wiring of the machine. Before the electrical installation, we must perform the stacking. Additionally, the connection of the stock thermostats in both machines must be modified.

NOTE: It is recommended not to use a drill larger than 20 mm to avoid perforating the tank.

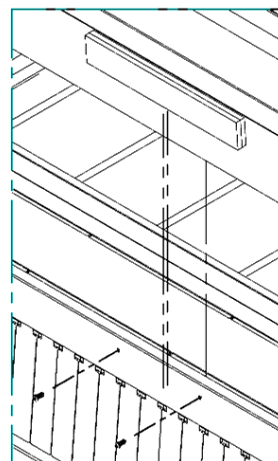
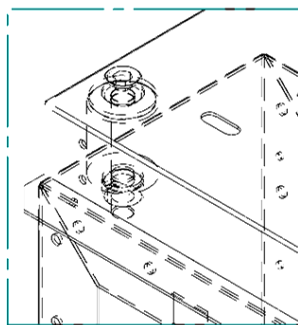
3.6.1 STACKING OF MACHINES

To perform the stacking, we must remove the top panel of the machine that we are going to place underneath and the front panel as shown in the drawing.

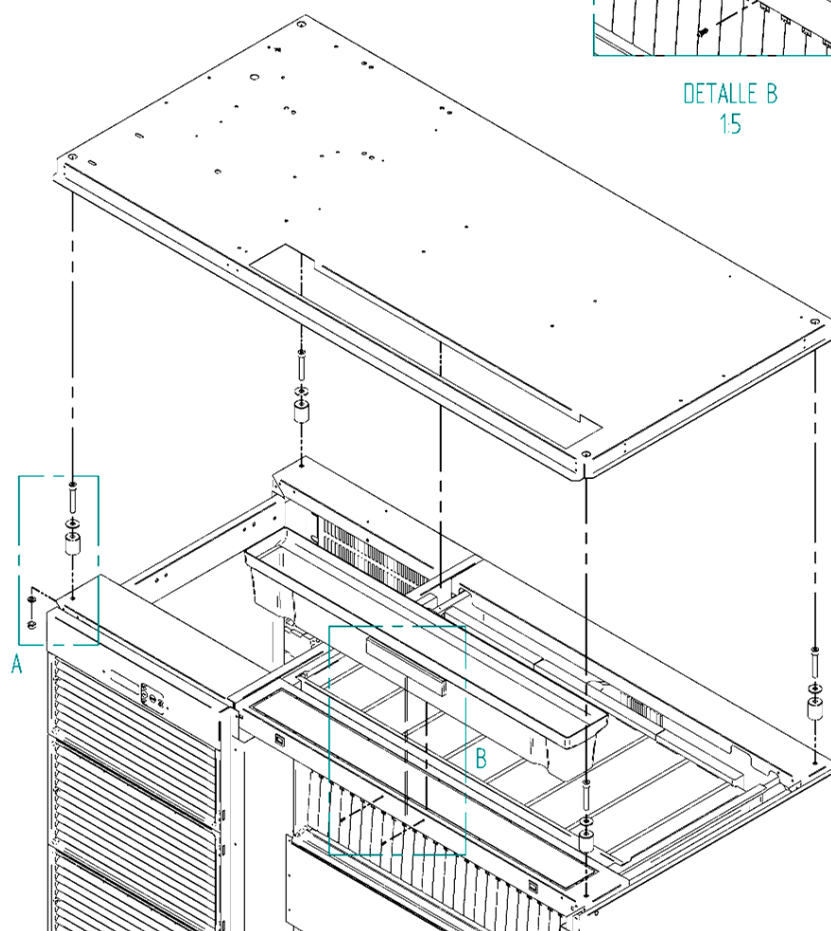
Once the top and front panels are removed, we must install the kit as shown in details A and B. To install the outlet, the cover that blocks the ice outlet hole must first be removed from the lower machine (remove micro fasteners and file the perimeter).



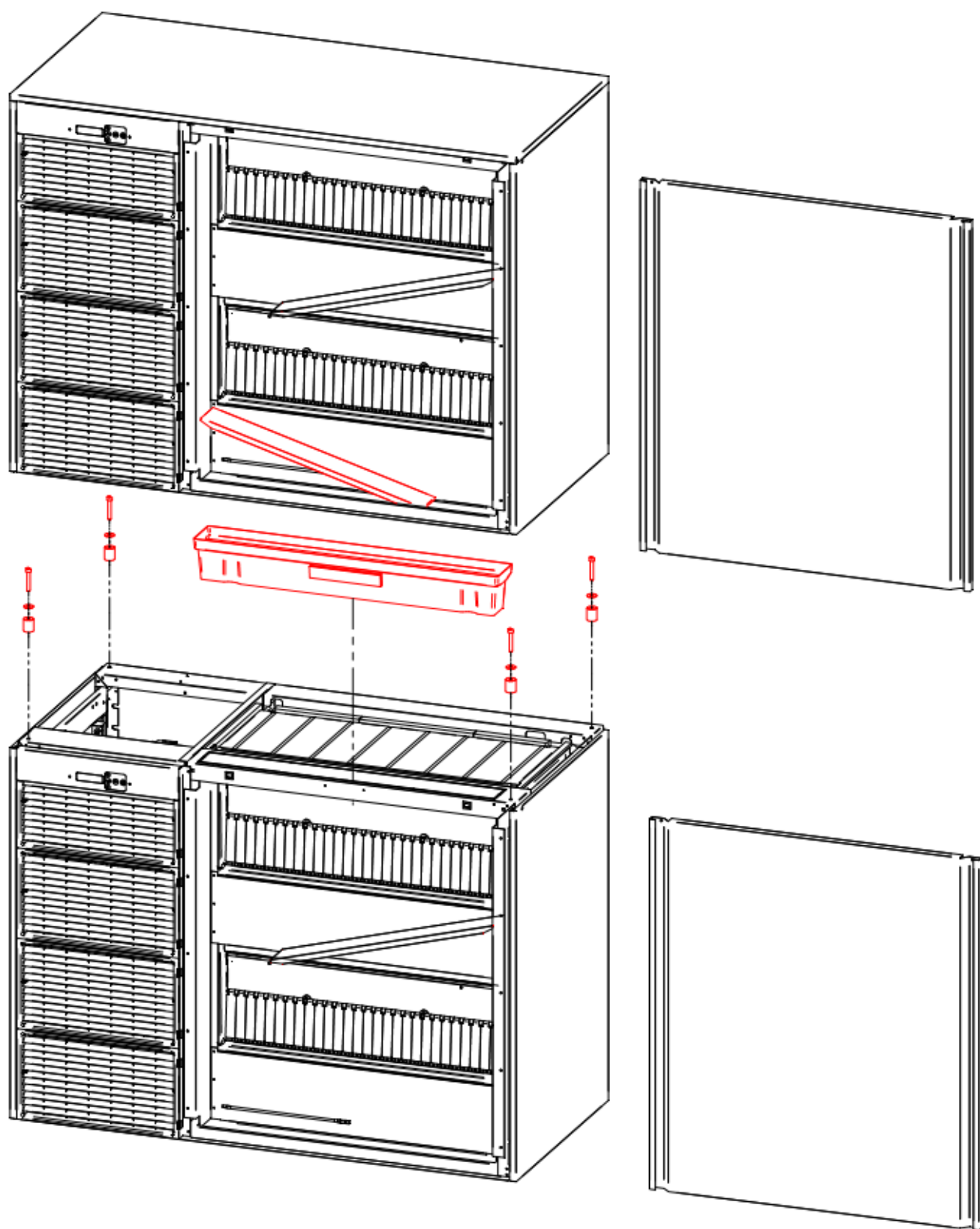
DETALLE A
1:5



DETALLE B
1:5

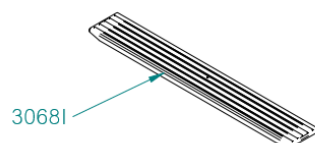
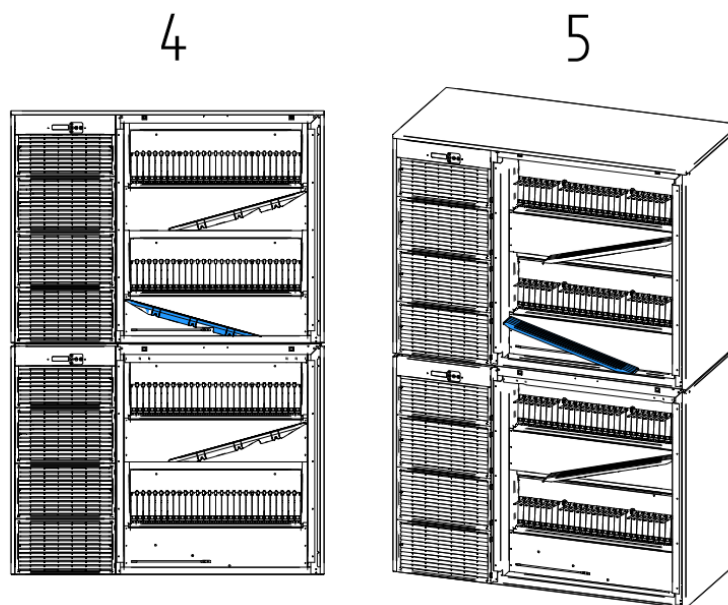
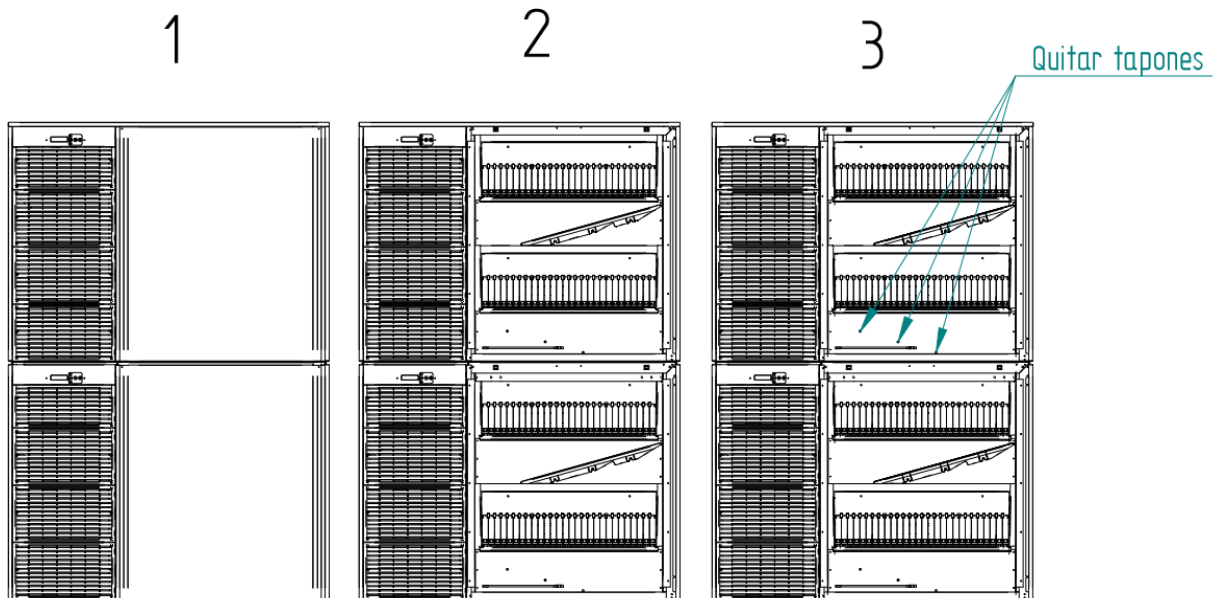


STACKING OF MACHINES: DIAGRAM

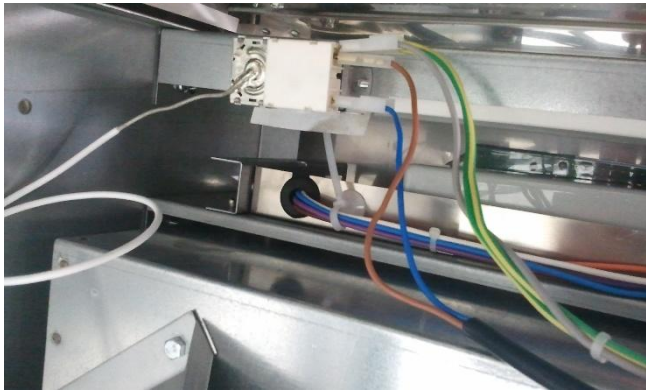
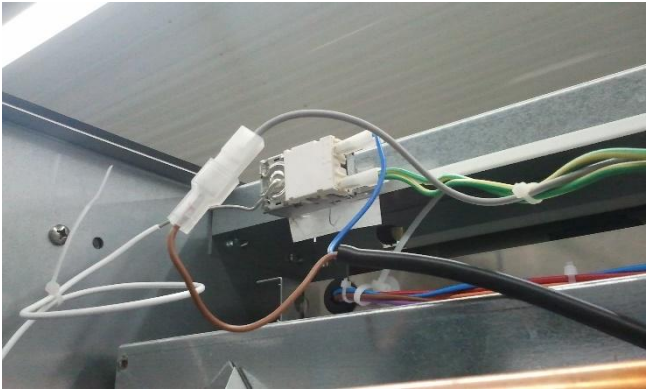
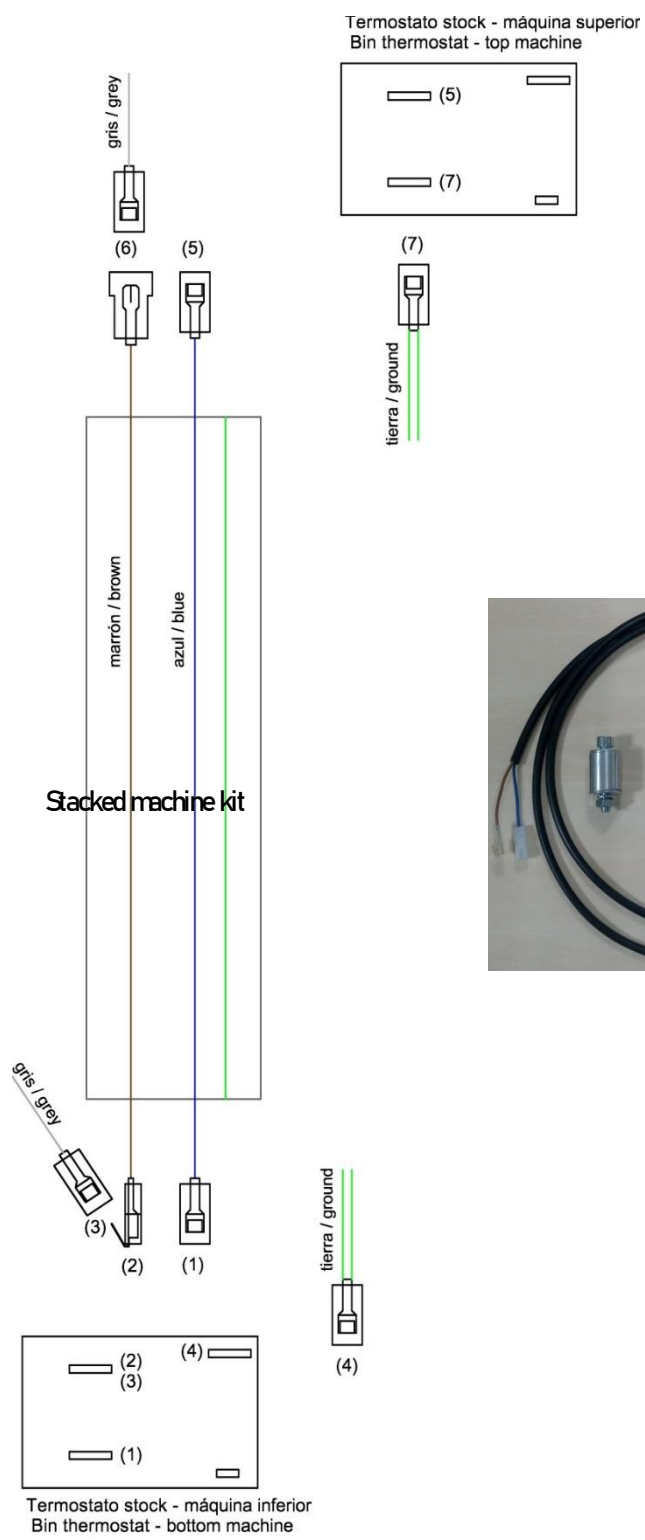


Below are the steps for placing the ramps:

1. We start with the two machines already stacked.
2. Both front covers are removed.
3. The three plugs of the riveted nut are removed to allow for screwing.
4. The ramp 30681 is screwed in as indicated in the figure.
5. The final position of the ramps is shown.



3.7.- THERMOSTAT CONNECTIONS



3.8.- REMOTE CONDENSER UNIT

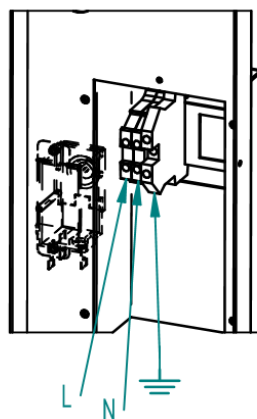
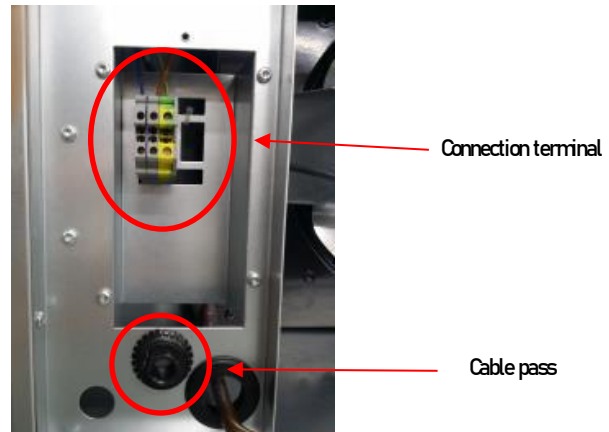
If you have purchased a machine with a remote condenser, follow the instructions below for its installation.

STEP 1: LOCATION OF THE ICE MACHINE AND THE REMOTE CONDENSER

CHECKING CORRECT CONNECTIONS:

REMOTE CONDENSER:

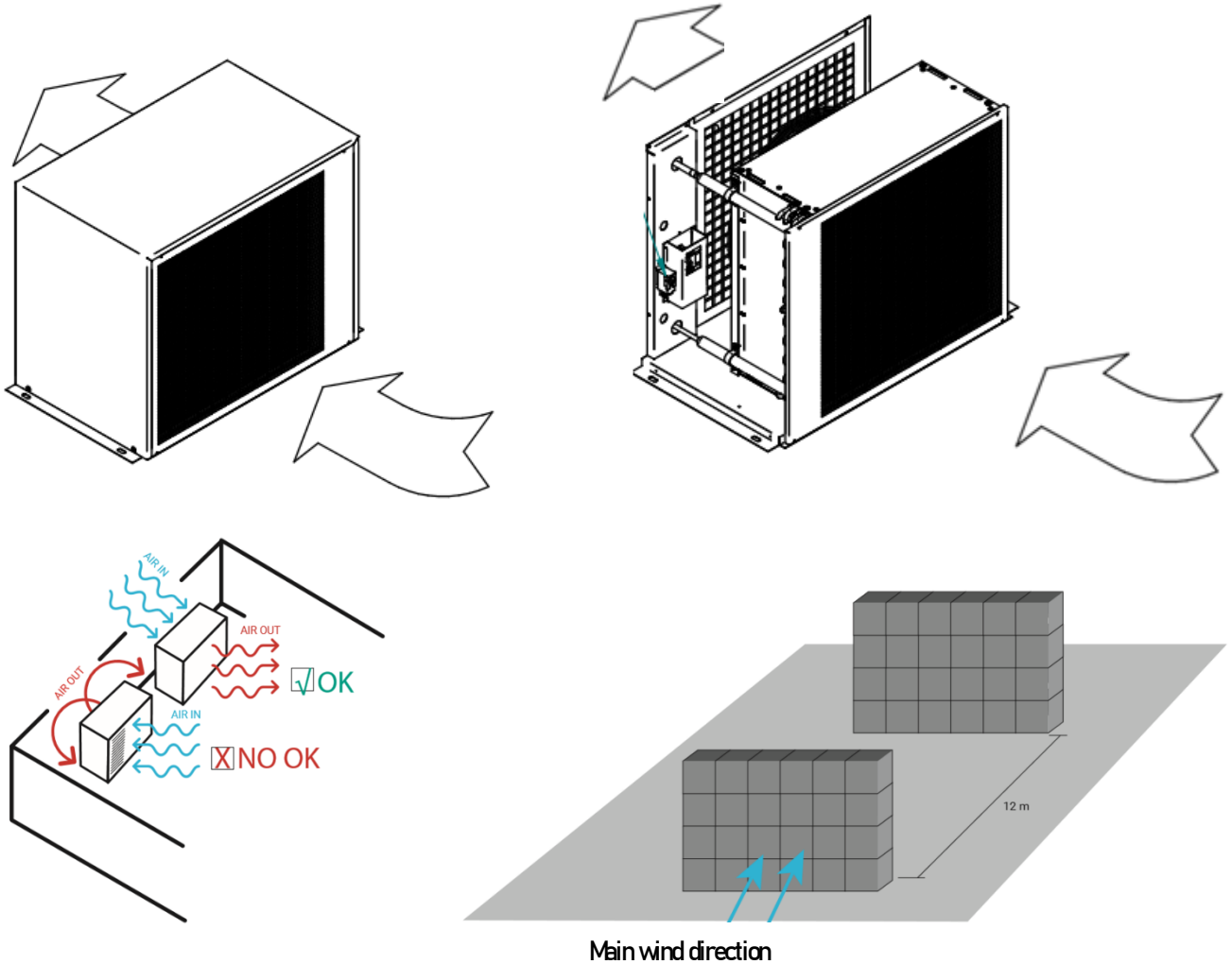
- The condenser unit has a condensation pressure switch.
- It requires an electrical connection (check the plate for specifications). It does not come with an electrical cable; it is necessary to bring a cable to connect directly to the condenser (no communication with the indoor unit is needed).
- To connect electrically, remove the rear cover with a Torx screwdriver. The electrical wiring to the remote condenser must be routed through the lower cable pass adjacent to the piping. Use a 3x1.5 mm² electrical hose.



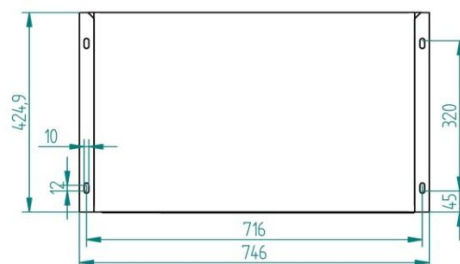
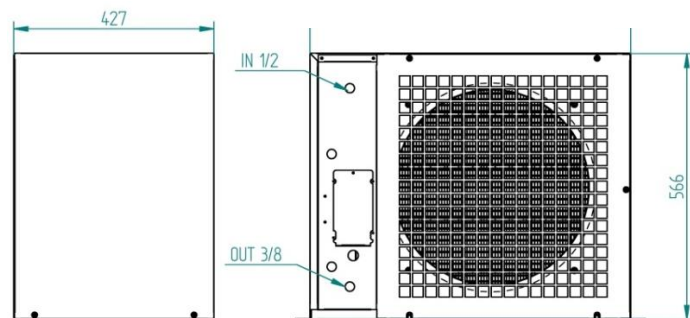
Connector to connect the power supply to the condenser, located behind the metal plate.

- Correctly level the unit.
- It is advisable to place the remote condenser in a shaded area. We recommend placing the remote condenser under a roof whenever possible.

- The remote condenser operates in environments from 0°C to +43°C.
- Check the airflow direction through the remote condenser, install with the air outlet facing outside if located on a facade, to avoid returns of condensed air.
- If multiple condensers are to be installed in the same area, they must be positioned so that the exhaust air from one condenser does not enter another condenser.

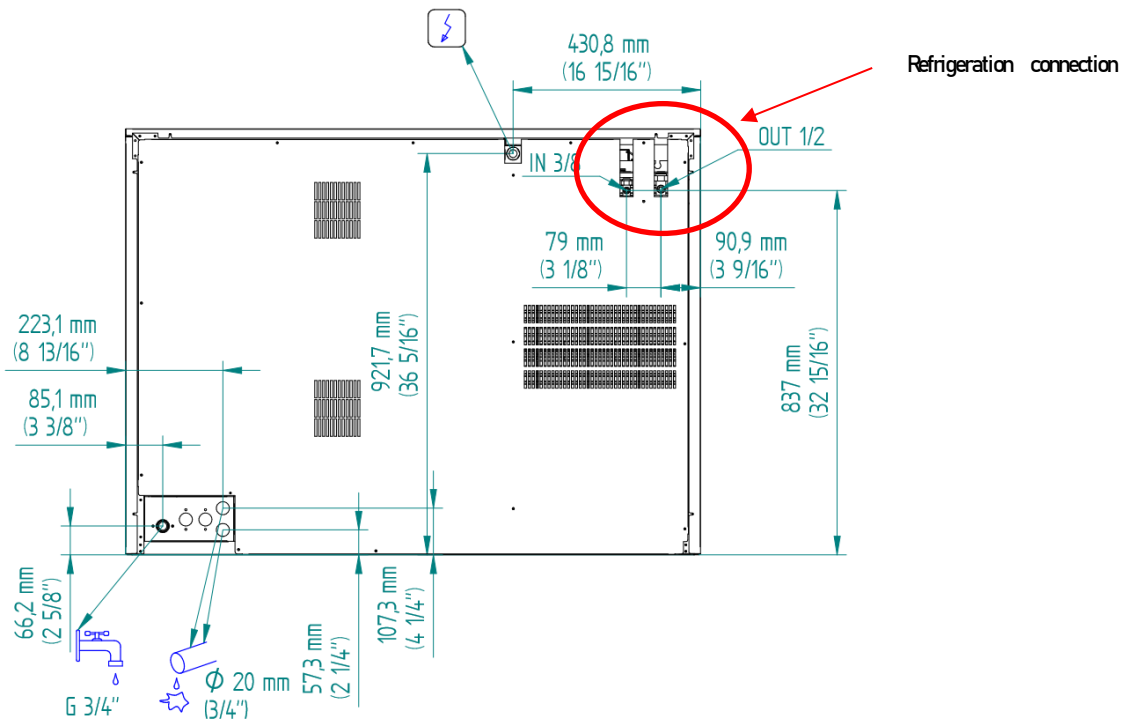


Main wind direction



INDOOR UNIT:

- It requires an electrical connection (check the specifications plate for needs). The units come with electrical cable, but without the plug.
- Water supply: it needs a nearby tap for water intake. It comes with a hose for connection and two mesh filters for the hose.
- Drainage: The unit has two drainage pipes. It needs to have a nearby drain. The drainage pipes of the unit must not create a siphon at any time; the water must drain without issues.
- Correctly level the unit
- Always keep in mind the exit of the ice cubes, so they fall freely.
- In case of stacking two units, follow the stacking manual for them.



STEP 2: INSTALLATION OF REFRIGERATION PIPING BETWEEN UNITS

REMOTE CONDENSER: When making the refrigeration installation, it may be necessary to remove the back cover of the condenser.

CONNECTION OF CONDENSER PIPES

Gas pipe: upper inlet 1/2"

Liquid pipe: lower outlet 3/8"

- The condenser comes pressurized from the factory. To check that it has not been damaged during transport, verify that it is still pressurized before cutting the pipes for connection.
- Always perform the connection to the remote refrigeration condenser by welding whenever possible. The condenser comes with the inlet closed and the outlet with a service port. Cut both pipes to make the welds.
- Install the refrigeration system between the indoor unit and the remote condenser. It is advisable to always install the pipes, both gas and liquid, separately to avoid thermal transfer between them. Additionally, we recommend insulating the liquid line.
- Try to make a clean installation, as straight as possible.

- The liquid line should always go from the outlet of the condenser (liquid lower pipe) to the inlet of the indoor unit, liquid (3/8"), and the gas line to the indoor unit (1/2").
- If the remote condenser is below the level of the indoor unit, it is necessary to create a siphon to prevent oil from remaining in the condenser. Create the siphon at the outlet of the remote condenser, in the liquid line.
- The remote condenser should not be installed more than 3 meters below the indoor unit.
- If the remote condenser is at the same height or above the indoor unit, a siphon will be installed in the gas line, one every 4 meters vertically, and every 8 meters horizontally.

INDOOR UNIT: It is connected using 3/8" liquid and 1/2" gas copper piping, with flaring, and the union nut is part of the unit itself.

STEP 3: LEAK TESTS AND VACUUM ON THE INSTALLATION

- Once the refrigerant lines are soldered and connected, it is necessary to check that the installation has no leaks in the flares or in the welds.
- After verifying that there are no leaks in the refrigeration installation, a good vacuum must be performed. It is advisable to maintain the unit under vacuum for at least 4 hours.
WARNING: Do not open the valves of the indoor unit before having created the vacuum; it comes pre-charged with refrigerant.

STEP 4: OPENING LIQUID AND GAS LINES

- Proceed, once it has been verified that everything is correct and there are no leaks, to open the indoor unit, which comes charged with gas for a maximum distance of 5 meters between the indoor unit and the remote condenser. First, slowly open the 3/8" (liquid) valve and then the 1/2" (gas) valve.



STEP 5: ONLY FOR DISTANCES BETWEEN UNITS OF MORE THAN 5 METERS

- If the remote condenser is more than 5 meters away from the indoor unit, it is necessary to add gas. 40 grams are added for each extra meter of distance. Maximum distance is 15 meters.

STEP 6: STARTUP

- You can now turn on the unit to test it and modify the unit parameters if necessary (electronic board).

NOTE: It is advisable to use the ambient sensor of the remote unit to place it in the condenser (at the air inlet), so that the outside temperature in the condenser area can be checked via the display of the indoor unit. To do this, extend the cable and place the sensor bulb at the air inlet of the remote condenser.

4. STARTUP

4.1. PREVIOUS REVIEW

- a) Is the machine level?
- b) Are the voltage and frequency the same as on the specification plate?
- c) Are the water and drainage connections connected and operating?
- d) In case of Air Condensation: Is the air circulation appropriate?
- e) Is the room and water temperature appropriate?

	ROOM	WATER
MAXIMUM	43°C	35°C
MINIMUM	10°C	5°C

- f) Is the water pressure adequate?

MINIMUM	0.1 MPa (1 Bar)
MAXIMUM	0.6 MPa (6 Bar)

- g) The conductivity of the water must be at least 10 microSiemens

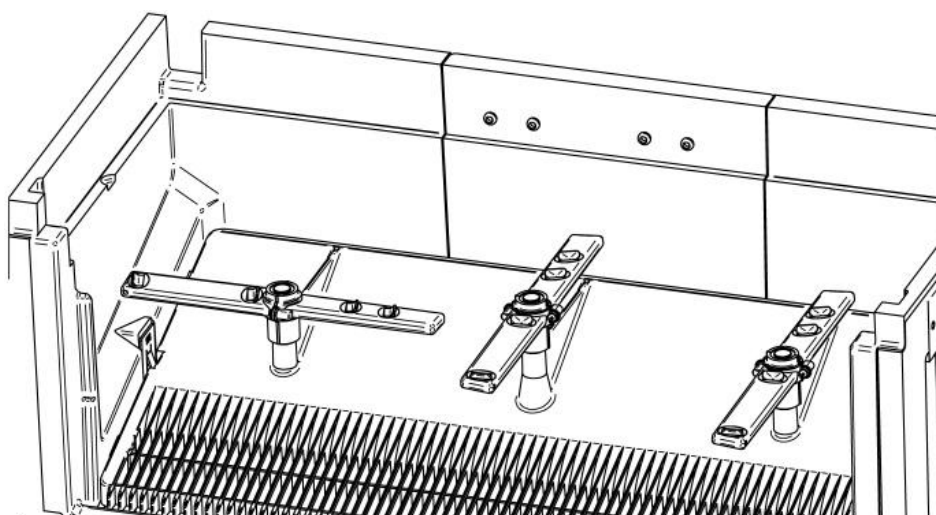
NOTE: If the inlet water pressure exceeds 6 Bar, install a pressure reducer.

4.2. STARTUP

Once the installation instructions (ventilation, room conditions, temperatures, water quality, etc.) have been followed, proceed as follows:

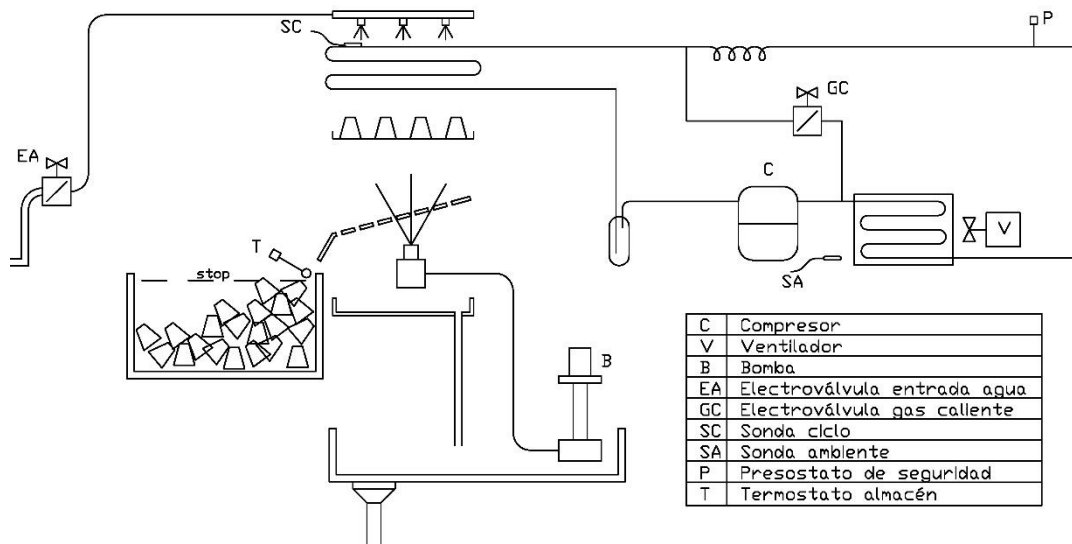
1. Open the water shut-off valve. Check for leaks.
2. Connect the machine to the electrical network with its corresponding protection.
3. Press the button on the display installed on the front of the machine.
4. Check that there are no elements that rub or vibrate.
5. Check that the curtain moves freely.
6. Check that the injectors send water to the evaporator in the correct direction.
7. Check that the collectors rotate freely on their axis.
8. Once 10 minutes have passed, check that the water tank has no leaks from the maximum level overflow.

NOTE: The electronic board has a battery to maintain the date and time. The battery is protected with plastic to prevent it from being consumed. The first time the unit is used, remove that plastic (by opening the upper compartment, display area, access the electronic board box, and inside is the battery with the plastic).



5. OPERATION

5.1. PRINCIPLE OF OPERATION



1. When the start button is pressed, the machine begins with a startup timing during which the water inlet solenoid valve (EA) opens.
2. After this startup time, the working cycle begins.
3. This starts with the takeoff maneuver.
4. When the takeoff time begins, the hot gas solenoid valves (GC) and the water inlet solenoid valve (EA) remain open, and the compressor and fan start. The water pump operates for 30 seconds to assist with the takeoff.
5. At the end of the takeoff, the ice production begins.
6. The compressor (C) and the fan (V) continue to operate, the pump (B) starts, and the hot gas valves (GC) and water inlet valves (EA) close.
7. From this moment, the evaporator begins to cool during the production time.
8. Once the manufacturing time is finished, the peeling process will start again.
9. Each complete cycle is considered to start when the manufacturing time begins and ends when the peeling time finishes, thus starting a new manufacturing process.

*The hot gas solenoid valve GC must be opened (5 sec) always before each compressor start. The rest of the components are stopped, including the compressor.

*Expansion controlled by expansion valve.

5.2. DISPLAY

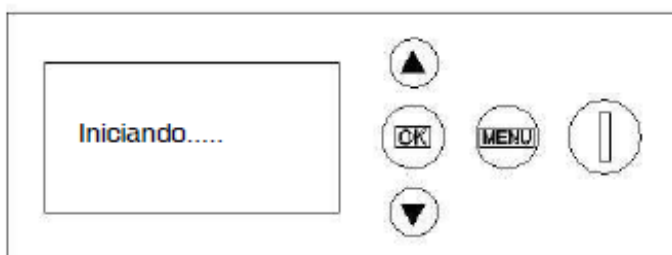
5.2.1. MACHINE OPERATING STATES

Machine off

When the machine is off, the time appears on the display (without lighting). When the power to the machine is disconnected, the time is lost. When reconnecting, it starts from 00:00, but blinking, to indicate that it is not set correctly.

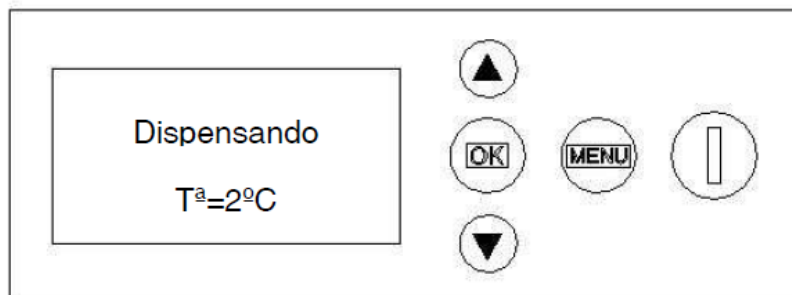
Start-up

When the machine is operating during the start-up time, the display will show as follows:



Take-off

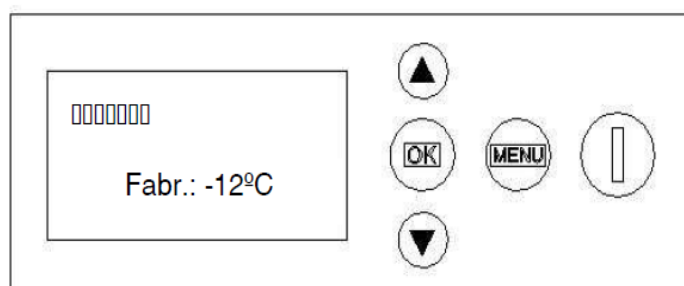
When the machine is operating during the take-off time, the display will show as follows:



Additionally, at the bottom, the temperature indicated by the SC cycle probe will appear.

Manufacturing

When the machine is operating during the manufacturing time, the display will show as follows:



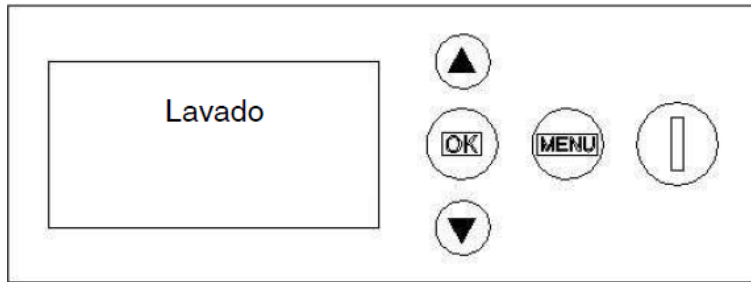
When the take-off is complete, the screen will indicate, with a progress bar, the remaining time until the end of the cycle.

Additionally, at the bottom, the text will appear: "Fabr.: -12°C", where the temperature will be the one indicated by the SC cycle probe.

Washing

Only the water pump is activated. Access is granted with the machine turned off, by pressing both the "OK" button and the power button "I" simultaneously for 3 seconds.

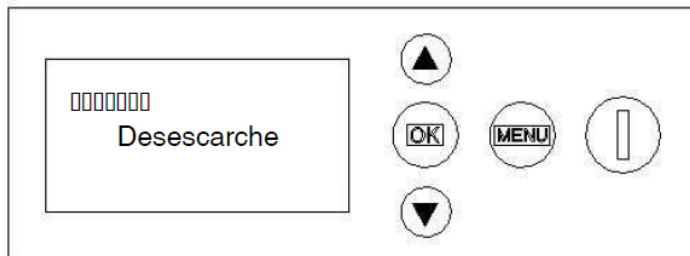
The screen will display:



To stop the washing cycle, press the power button "I" and the machine will turn off.

Defrost

When the "tMmax" is reached and the pump is operating, the screen will display the message "Defrost" and the progress bar corresponding to the set "tBdefrost" will be shown.



5.2.2 MENUS

The machine parameters can be adjusted as needed in the display menu. The machine has 3 menus:

Main menu: We will always access it with the machine in Off by pressing the "Menu" button.

- Time setting "Set time". Locate in the menu, press the buttons to make the correct adjustment. Once the hour is selected, press "OK" and set the minutes. By pressing "OK" again, the time will be saved and you will exit this option returning to the menu.  
- Programmer "Programmer". This option allows you to schedule the start and stop time of the machine. In the menu, we look for the "Programmer" option. By pressing the button, the option

"Activate" will appear. Once the "Activate" option is selected, the fields to fill in "Start" and "End" will appear on the screen. 

- Language "Language". Once located in the menu, we select the language with the buttons   and press "OK".
- Exit "Exit"

Menu information: We can access it at any working time or with the machine turned off by pressing the "MENU" button for 3 seconds. This menu provides access to:

- Ambient probe temperature "T.amb"
- Cycle probe temperature "t.Cic"
- Last cycle manufacturing time "t.Fabr"
- Last cycle total time "t.Comp"
- Instantaneous manufacturing time of the current cycle "t.F.act"
- Remaining manufacturing time of the current cycle "t.F.rest"
- Instantaneous take-off time of the current cycle "t.D.act"
- Remaining take-off time of the current cycle "t.D.rest"
- Status of the "On/off" entries "I1234"
- Status of the Outputs "On/off" "O1234"
- Cycle counter
- Exit

Configuration menu: We will access it by pressing simultaneously for 3 seconds.  
It can be accessed at any time during operation or with the machine turned off.

- Fixed manufacturing time "t.manufacturing"
- Setpoint manufacturing temperature "Temp.manuf"
- Fixed takeoff time "t.takeoff"
- Setpoint takeoff temperature "Temp.takeoff"
- Water entry time "t.water"
- Bomb time at initial takeoff "t.bomba desp.in"
- Bomb time at final takeoff "t.bomba desp.fin"
- Balancing time (hot gas) during startup "t.equilibrado"
- Startup time "t.arranque"
- Minimum stop time due to full storage "t.stock min"
- Minimum stop time due to safety pressure switch "t.seguridad min"
- Maximum variable takeoff time "t.despegue max"
- Maximum variable manufacturing time "t.fabric max"
- Minimum variable manufacturing time "t.fabric min"
- Maximum machine time "t.máquina max"
- Defrosting pump time "t.bomb.desescarc"
- By default "standard values"
- Exit

5.5. *PARAMETERIZATION*

Parameter	Description	Factory values electronic card	Minimum value	Maximum value	23/30 cc	65/68 cc	36/40 cc	48/52 cc
t. start	Initial machine start-up time after disconnection (water inlet open)	0200	0000"	0200"	0200"			

t. balancing	Time for opening the hot gas valve to balance pressures before compressor activation during start-up. DO NOT MODIFY	0005	0000"	0100"	0005"			
Temp.desp	Setpoint takeoff temperature.	0 °C	-50C	+20C	-8°C			
t.takeoff	Takeoff time after reaching "Temp.Desp".	0200	0000"	0500"	0050	0200	01'00"	0200
Temp. fabr	Manufacturing setpoint temperature.	-10 C	-50C	+20C	-8°C			
t. fabrication	Manufacturing time from achieving "Temp.Fabr".	2200	0000"	6000"	1200"	2200	1400"	2000"
t. water	Water time from obtaining "Temp.Desp".	0200	0000"	1000"	0040"	0150	0050"	0150
t. min stock	Minimum machine stop time due to full warehouse. DO NOT MODIFY	0200	0000"	1000"	0200"			
t. min safety	Minimum machine stop time due to safety pressure switch. DO NOT MODIFY	60'00"	0000"	9900"	6000"			
max takeoff time	Maximum takeoff time to trigger an alarm in case the temperature does not exceed "Temp.desp" DO NOT MODIFY	0500	0000"	3000"	0500"			
max fabrication time	Maximum fabrication time to trigger an alarm in case the temperature does not fall below "Temp. Fabr". DO NOT MODIFY	60'00"	0000"	9900"	6000"			
min fabrication time	Minimum fabrication time to trigger an alarm in case the temperature falls below "Temp. fabr". DO NOT MODIFY	0200	0000"	1000"	0200"			
inlet pump time	Activation time of the pump from the start of takeoff.	0030"	0000"	0200"	0030"	0040"	0030"	0040"
t. pump end.	Activation time of the pump prior to the completion of takeoff.	0000"	0000"	0500"	0000"			
t. max machine.	Activates de-icing. Maximum continuous operating time without disconnections or stops of the machine.	00h00	00h00	96 AH0	00h00			
t. pump de-icing	Active pump time for de-icing.	3000"	07'00"	6000	3000"			

6. SPECIFICATIONS

See the specifications indicated on the nameplate of the machines and in the links to the specification sheets at the end of this manual.

7. REGULATIONS

7.1. PRESSURE SWITCH VALVE OF THE CONDENSER (WATER CONDENSATION)

- This operates by allowing more or less water to pass through, the fluid responsible for condensing the refrigerant, thus maintaining a constant condensation pressure in the circuit.
- The stop pressure must be equivalent to a condensation water outlet temperature of 38° C. Below this pressure, there may be difficulties in the detachment of the ice cubes. Above it, the compressor's lifespan is shortened and ice production decreases.
- By turning the adjustment screw clockwise, the pressure increases. One turn is approximately equivalent to 1.5 Bar.

Refrigerant	Regulation pressure (bar)
R454C	15
R452A	18

7.2 Fan pressure switch (AIR CONDENSATION)

- This operates by maintaining the condensation pressure between two values, turning the fan that condenses the refrigerant on or off based on its pressure.
- Below the cut-out pressure, there may be difficulties in the release of ice cubes, and above the cut-in pressure, the compressor's lifespan is shortened and ice production decreases.

Refrigerant	Stop pressure (bar)	Start pressure (bar)
R454C	13	15
R452A	16	17

7.3. SAFETY PRESSURE SWITCH

The pressure switch serves as a safety device for excessive discharge pressure, which may be due to:

1. Dirty condenser, poor air circulation, very high room temperature (condensation due to air).
2. Lack of water or very high water temperature (condensation due to water).

The high pressure parameters are:

Refrigerant	Regulation pressure (bar)
R454C	27
R452A	30

7.4. LOW PRESSURE SWITCH

The pressure switch in the low pressure area of the refrigeration circuit allows for the detection of refrigerant leaks, as in the event of a leak, the circuit pressure will decrease and this will be detected by the low pressure switch.

The parameters are fixed:

- Disconnection: 0.5 Bar.
- Connection: 2 Bar.

8. MAINTENANCE AND CLEANING INSTRUCTIONS AND PROCEDURES



You must wear rubber gloves and safety glasses when handling the cleaner or disinfectant for the ice machine.

All the ice that will be produced during this procedure is not suitable for human consumption, so it must be melted or discarded.

* The maintenance procedures described in this manual are not covered by the warranty *

WARNING: MAINTENANCE AND CLEANING OPERATIONS, AND FAILURES CAUSED BY THEIR OMISSION ARE NOT INCLUDED IN THE WARRANTY.

Only with proper maintenance will the machine continue to produce good quality ice and be free from breakdowns.

The maintenance and cleaning intervals depend on the conditions of the installation site and the quality of the water.

At a minimum, a review and cleaning should be done every six months.

In very dusty places, cleaning the condenser in air-cooled machines may need to be done every month.

MAINTENANCE TABLE

ACTION	MONTHLY	QUARTERLY	SEMIANNUAL	ANNUAL	BIENNIAL	UNIT T
Air condenser cleaning						30 Minutes

Water condenser cleaning						90 minutes
Injector cleaning						30 Minutes
Manufacturing water circuit cleaning						45 minutes
Sanitary cleaning						30 Minutes
Cleaning/replacing water filters						30 Minutes
Exterior cleaning						

	Essential
	Depending on the conditions of the premises
	Depending on the conditions and quality of the water
	To be carried out by the user

WARNING. FOR ALL CLEANING AND MAINTENANCE OPERATIONS, DISCONNECT THE MACHINE FROM THE ELECTRICAL POWER SUPPLY.

8.1. WATER CONDENSER

- 1) Disconnect the machine.
- 2) Disconnect the water inlet or close the tap.
- 3) Disconnect the water inlet and outlet of the condenser.
- 4) Prepare a 50% solution of phosphoric acid and distilled or demineralized water (or an appropriate product for cleaning the water circuit of the condenser).
- 5) Circulate it through the condenser. (The mixture is more effective when hot - between 35° and 40° C).

Do not use hydrochloric acid.

8.2. AIR CONDENSER

- 1) Disconnect the machine.
- 2) Disconnect the water inlet or close the tap.
- 3) Clean the condenser with the help of a vacuum cleaner, non-metallic brush, or low-pressure air.

8.3. EVAPORATOR / WATER TANK

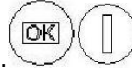
8.3.1 CLEANING INSTRUCTIONS

1. We recommend using the cleaning product Calklin. Prepare a solution of 50% phosphoric acid and distilled water. Do not use hydrochloric acid. By removing the back panel, we will have access to the manufacturing tanks. By removing the cover that serves as the pump anchor, we will have access to the inside of the tank where we must pour the previously prepared mixture. The mixture

is more effective with water between 35°C and 40°C.

2. Washing cycle: Press the button and the power button for 3 seconds. The pumps will recirculate the mixture through the evaporators and tanks. The compressor and other

components will remain disconnected during this cycle.



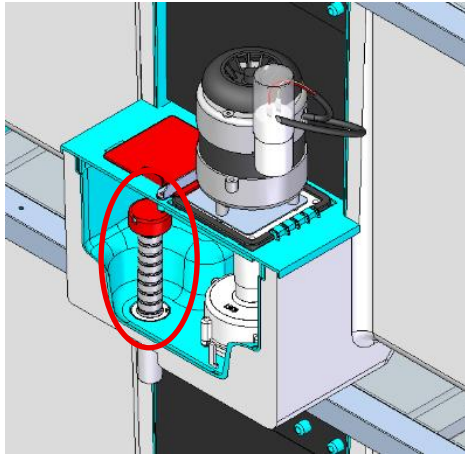
3. Let the solution act for 10 minutes.

4. After 10 minutes, we stop the washing cycle by pressing the power button, and the machine

will turn off.



5. Remove the overflow pipes installed inside the tanks from the back of the machine, as shown in the following image:



6. Once the tanks are emptied, we put the overflow pipes back in.

7. If we consider that the tanks and evaporators are completely clean, we must perform two washing cycles using only water to eliminate any remaining dirt from the previous cycle.

WARNING: ** DISCARD THE ICE MADE WITH THIS FIRST CYCLE.

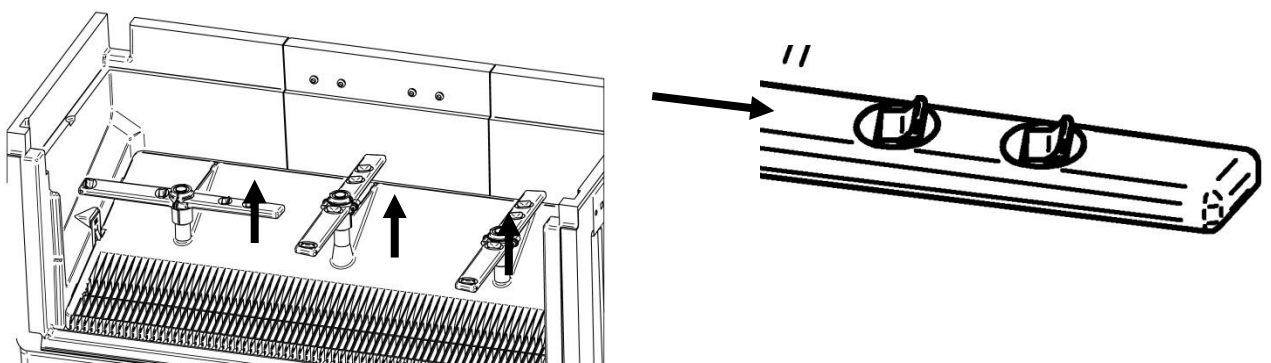
8. Clean and assemble all components, check that the grid is clean and that the ice cubes slide well. Check that no blade is stuck in the curtain.

9. Review and/or change the water inlet filters.

10. Check that the injectors are properly positioned. If necessary, disassemble, clean, and place them in the correct position.

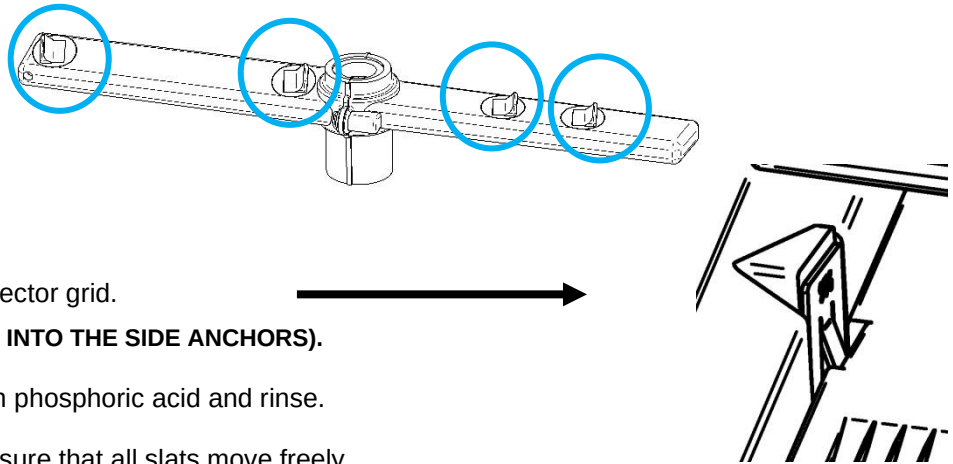
8.4. COLLECTOR AND INJECTORS

1. Remove the curtain. Take the collectors out of their shafts by pulling slightly upwards.



2. Remove the ice drop discharge grille. (Clean it just like the curtain).
3. Disassemble the injectors and clean them.
4. Disassemble and clean the main filter of the water pump. (It is mounted under pressure)
5. Assemble the filter, injectors, and collectors.

WARNING: IT IS VERY IMPORTANT, WHEN REINSTALLING THE COLLECTOR, THAT THE INJECTORS ARE IN THE SAME POSITION THEY WERE.



6. Install the ice cube ejector grid.
(WARNING: IT MUST FIT INTO THE SIDE ANCHORS).
7. Clean the curtain with phosphoric acid and rinse.
8. Install the curtain. Ensure that all slats move freely.
9. Start the machine and discard the first batch of ice.

8.5. INLET FILTER CLEANING

They tend to clog in the first few days of the machine running, especially with new plumbing installations. Disconnect the hose and clean them under running water.

8.6. WATER LEAK CONTROL

Whenever working on the machine, check all water connections, the condition of the clamps, and hoses to avoid leaks and prevent breaks and flooding.

9. CONSIDERATIONS FOR THE USE OF REFRIGERANT

9.1. COMPACT VERSION: R454C

- R454C is a mixture of 2 gases (R1234yf and R32) in liquid phase. When it evaporates, the 2 gases remain separated.
- Recharges and purges must be done from the liquid side.
- When replacing a compressor, wash the system by sweeping with dry nitrogen, change the dehydrator to one suitable for R454C that also has acid-neutralizing capacity.
- If oil needs to be replenished in the circuit, use specific oils for R454C (POE). In case of doubt, always consult the equipment manufacturer.
- If leaks have occurred in the areas of the circuit where R454C is in gas form, and if the amount to be refilled is greater than 10% of the total charge, recover all existing gas in the system to take to the authorized waste manager and proceed to recharge (always liquid).
- If charging by low side, wait to connect the compressor for at least 1 hour, to allow the liquid to turn into gas.
- R454C is a slightly flammable refrigerant. All necessary precautions must be followed in this regard.

9.2. REMOTE VERSION: R452A

- R452A is a mixture of 3 gases (R1234yf, R125, and R32) in liquid phase. When it evaporates, the 3 gases remain separated.
- Recharges and purges must be done from the liquid side.
- When replacing a compressor, wash the installation by sweeping with dry nitrogen, change the dehydrator to one suitable for R452A and that also has acid-neutralizing capacity.
- If oil needs to be replenished in the circuit, use specific oils for R452A (POE). In case of doubt, always consult the equipment manufacturer.
- If leaks have occurred in the areas of the circuit where R452A is in gas form, and if the amount to be refilled is greater than 10% of the total charge, recover all existing gas in the installation to take to the authorized waste manager and proceed to recharge (always liquid).
- If charging by low side, wait to connect the compressor for at least 1 hour, to allow the liquid to turn into gas.

10. ALARMS

10.1. FULL STORAGE

When the storage thermostat contact is open (storage full of ice), upon checking it after the defrosting is complete, the machine will stop indicating "Storage full."

10.2. CYCLE PROBE

It displays the temperature of the cycle probe on the screen. If it is defective, the machine will stop and indicate "CYCLE PROBE ALARM."

10.3. AMBIENT PROBE

If for any reason the probe is defective, instead of indicating the temperature, it will indicate "_____". This alarm will not affect the operation of the machine as it is only an informational function.

10.4. HIGH PRESSURE

This alarm will appear when the machine's pressure reaches 30 Bar. The reset can be manual or automatic depending on the setting on the electronic board.

- If dip-switch 2 is in the ON position, the reset will be automatic. The minimum safety stop time is 60 minutes, and the display will show the alarm "timing".
- If dip-switch 2 is in the OFF position, the reset is manual and "Pressure Alarm" will appear on the display.

10.5. LONG PREHEATING

If the take-off time is longer than the defined time, the display will show the alarm "Long take-off time alarm".

10.6. LONG PRE-COOLING

If the manufacturing time is longer than the defined time, the machine will stop showing the alarm "Long manufacturing time alarm" on the display.

10.7. SHORT PRE-COOLING

If the manufacturing time is shorter than the minimum variable manufacturing time, the machine will begin a take-off. If the error continues, "Short manufacturing time alarm" will appear on the display.

11. INCIDENT REPORT TABLE

PROBLEM	PROBABLE CAUSE	SOLUTION
---------	----------------	----------

1-No electrical component works.	The machine is unplugged.	Plug in the machine.
	The power supply is poorly connected or in bad condition.	Check connections and service cable.
	High temperature alarm	Check fan operation, clean the condenser. Check the condensation pressure switch.
	Malfunctioning or defective stop thermostat. (Full storage)	Check and adjust or replace the defective stock thermostat.
2-All electrical components are functioning. The compressor does not start.	Electronic control. Check that voltage reaches the compressor.	Replace the electronic board if voltage does not reach.
	Defective compressor.	Change the compressor.
3-Everything seems to work well, but ice is not being made in the evaporator.	Broken pump.	Replace the pump.
	No water is entering the tub.	Check the water inlet valve.
	The water tub is running out of water.	Check the water inlet solenoid valve and replace if necessary. Check the water level tube.
	Ineffective cooling system. (Dirty condenser, pressure switch or condensation water inlet valve broken or poorly adjusted or lack of refrigerant.	Change the dehydrator, vacuum, and charge.

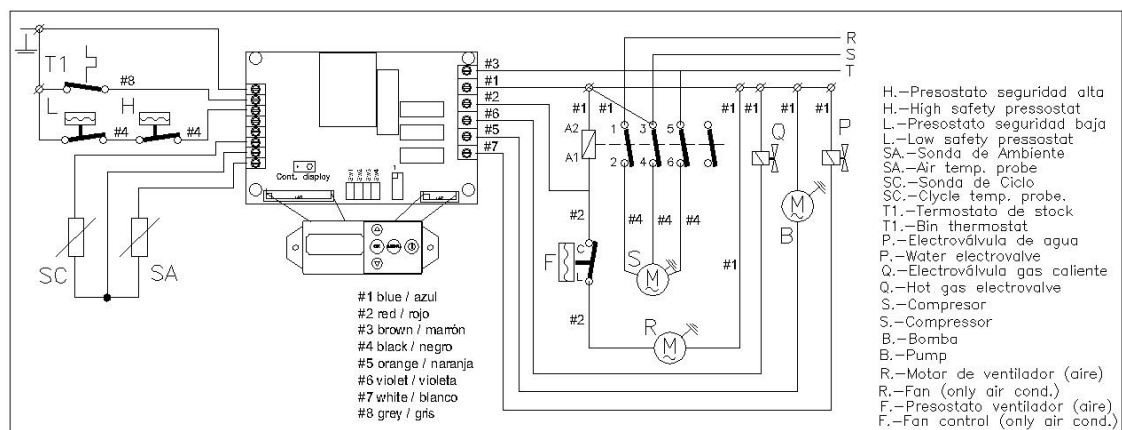
4-Ice cubes are forming, but they are not coming off.	Defective or poorly connected hot gas valve.	Review and eventually change.
--	--	-------------------------------

	Low water pressure.	Increase the pressure. (Sometimes, the problem is solved by removing the flow meter from the water inlet valve)
	Fan or condensation pressure switch too low or damaged.	Adjust or change.
	Water pressure valve too open or defective. (water condensed machines with this valve)	Adjust, repair, or change.
	Ambient or water temperature below 7° C.	Increase take-off time.
	Insufficient take-off time.	Increase the takeoff time
	Manufacturing time too long. The cubes have burrs outside the mold.	Modify the manufacturing time.
	Dirty water inlet filters	Clean filters.
5-Low ice production.	Dirty condenser, obstructed air circulation, or receiving hot air from another device.	Clean condenser, free the air circulation, or change the machine's location.
	Dirty condenser, poorly regulated condensation pressure switch.	Clean condenser or adjust the pressure switch.
	Defective hot gas valve, always allows some hot gas to pass through (the temperature of the pipe is an indication).	Replace the hot gas valve.
	Fan pressure switch or condensation water inlet valve set too low or defective.	Adjust or change.
	Water inlet valve does not close (leaks)	Check and replace if necessary.
	Ineffective compressor.	Change the compressor.

6-Cubes empty, with irregular edges and very white.	Water loss in the tub. The pump is losing prime.	Eliminate the water leak.
	Clogged injectors.	Clean injectors.
	The slats of the curtain do not close properly, they get stuck and water is lost.	Adjust the slats of the curtain or clean the axis (it may have limescale deposits that prevent the smooth rotation of the slats).
7-The machine does not stop, even when it is full of ice cubes.	Malfunctioning or poorly regulated stock thermostat.	Adjust according to the factory SET marked with a red dot on the thermostat sticker. Replace if defective.

12. TECHNICAL ANNEX

12.1. ELECTRONIC CONTROLLER



12.2. OUTPUT DESCRIPTION

Symbol	Description	Relay
C	Compressor and fan power supply.	10 A
B	Pump power supply.	5 A
EA	Electrovalve power supply for water opening during takeoff.	5 A
GC	Electrovalve power supply for hot gas during takeoff.	5 A

12.3. DESCRIPTION OF INPUTS

Symbol	Description
SC	Cycle probe. – temperature -50/+80 °C
on	Environmental probe. – temperature -50/+80 °C
P	Safety pressure switch. Type ON/OFF / NC contact / I minimum 25 mA
T	Storage thermostat. Type ON/OFF / NC contact / I minimum 25 mA
I	Flooding. By conductivity electrodes
HE	Free entry type ON/OFF / I minimum 25 mA

12.4. DIP SWITCH

Symbol	Description
1	Alarm time assessment (long preheating, long and short precooling)
2	Reset pressure switch
3	Automatic restart after power cut

12.5. BUTTONS

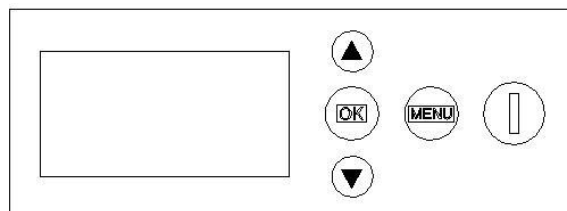
ON-OFF

- On: lights up the screen and starts at point 0.
- Off: At any moment, it deactivates the machine. Turns off display lighting and keeps the time. All relays off.

UP/DOWN: Move between menu options. Increase or decrease programming values.

OK: Confirm menu options or programming values.

MENU: Enter main menu. Exit one level when navigating in the menus.



USER INTERFACE

12.6 Main menu

- 12.6.1 Set time
- 12.6.2 Programmer
- 12.6.3 Language
 - Spanish
 - English
 - French
 - Italian
- 12.6.4 Exit

12.7 Information Menu

- 12.7.1 Ambient Temperature Probe / Cycle Temperature Probe
- 12.7.2 Last Cycle Manufacturing Time / Total Time Last Cycle.
- 12.7.3 Instant Time Current Cycle / Remaining Time Cycle
- 12.7.4 Current cycle: drainage
- 12.7.5 Status of inputs and outputs
- 12.7.6 Complete cycle counter
- 12.7.7 Exit

12.8 Configuration Menu

- 12.8.1 Fixed manufacturing time
- 12.8.2 Setpoint manufacturing temperature
- 12.8.3 Fixed takeoff time
- 12.8.4 Setpoint takeoff temperature
- 12.8.5 Water entry time
- 12.8.6 Pump time during initial takeoff
- 12.8.7 Pump time during final takeoff
- 12.8.8 Balancing time (hot gas) during startup
- 12.8.9 Startup time
- 12.8.10 Minimum stop time due to full storage
- 12.8.11 Minimum stop time due to safety pressure switch
- 12.8.12 Maximum variable takeoff time
- 12.8.13 Maximum variable manufacturing time
- 12.8.14 Minimum variable manufacturing time
- 12.8.15 Maximum machine time
- 12.8.16 Pump time for defrosting
- 12.8.17 By default
- 12.18.20 Exit

12.6. MAIN MENU

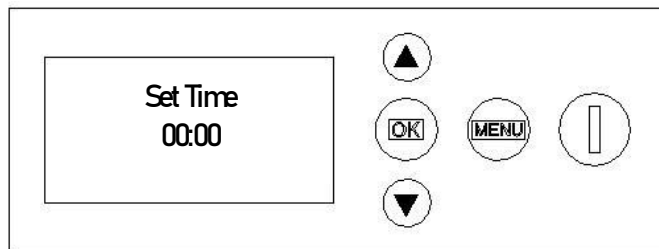
It can only be accessed when the machine is in "OFF". To access the main menu, press the "MENU" button once.

Once in the main menu, the different options will appear: "Set Time", "Scheduler", "Language", and "Exit". Once in the main menu, if the "MENU" button is pressed again, it will exit the main menu.

12.6.1. SET TIME

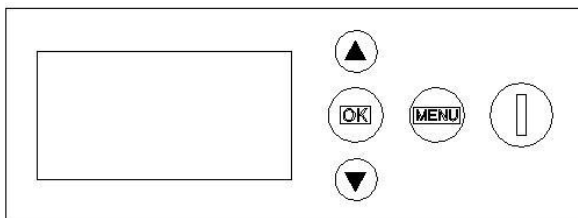
The time will be displayed in "hh:mm" format. If we want to adjust the time, we will look for the "Set Time" option in the menu and press "OK". At this moment, we can determine the corresponding hour in 24h format by using the up and down arrows.

Once the hour is selected, we will press "OK" again, and it will be stored, allowing us to modify the minutes. By using the up and down arrows, we will select the minutes and press "OK" again; the minutes will be saved, and it will automatically exit this option, returning to the main menu.



12.6.2. PROGRAMMER

This option allows the user to set a start time for the machine to boot and an end time for it to stop. To program the machine, we will select the option in the main menu. We will be taken to a screen where we can activate or deactivate the programmer.

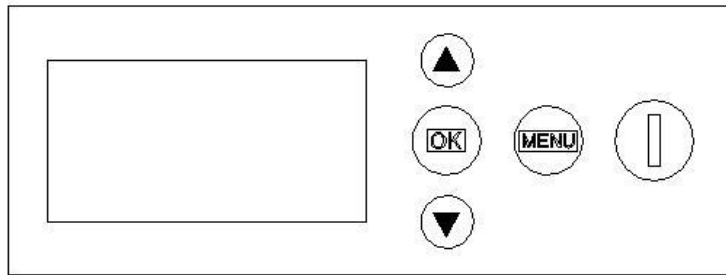


By pressing the down arrow, the option "Activate" will appear. If we select the "Activate" option, we will move to a screen where we can enter the time in "hh:mm" format when we want it to start (the last used times will appear by default).

Once the minutes are entered, by pressing "OK", we will automatically move to enter the end time. When we select the minutes for the end time and press "OK", we will return to the main menu.

If the start time is earlier than the current time, the programming will be for the next day.

When the programmer is activated, it repeats daily.



When returning to the main menu, to indicate that the programmer is activated, we will display a special character of choice on the screen. This special character will be present whenever the programmer is activated, both with the machine turned off and running (in the manufacturing, takeoff, and alarm states).

When the activation time arrives, the machine will start operating, and when it reaches the final time, two cases may occur:

1. If it is taking off, it will turn off after completing the takeoff.
2. If it is in the manufacturing process, it will complete the cycle, that is, it will turn off after finishing the takeoff.

To deactivate the timer, we will select the "Deactivate" option. The timer can be deactivated at any time by turning off the machine to access the corresponding menu. If there is a power outage, the timer will deactivate, as the clock resets to zero.

With the timer activated, two cases can occur:

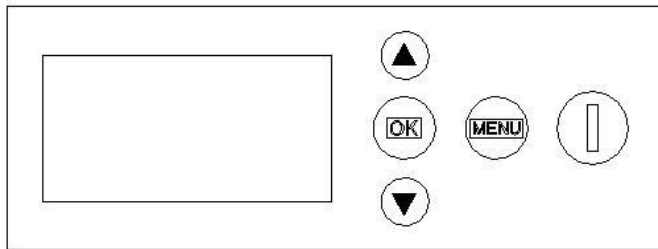
1. If the machine has not yet started and is stopped, it can be turned on using the power button and operated, then:
 - If left running, the timer will turn it off when the specified shutdown time is reached.
 - If it is turned off again before the start time, the timer will start it when the specified start time is reached.
2. If the machine has already started and is running, it can be turned off using the power button, then:
 - If it is left off before the shutdown time, the timer will no longer consider the specified shutdown time.
 - If it is turned on again, the timer will turn it off when the specified shutdown time is reached.

12.6.3. LANGUAGE

With this option, we can change the language of all texts that appear on the machine. We will select the desired language and by pressing "OK," the language will be saved. This option will remain saved even if the machine is turned off.

Available languages:

- Spanish (default)
- English
- French
- Italian



12.6.4. EXIT

With the exit option, we will return to the main screen.

12.7. INFORMATION MENU

It can be accessed at any time during machine operation or with the machine turned off.

Entry by pressing the "MENU" key for 3 seconds

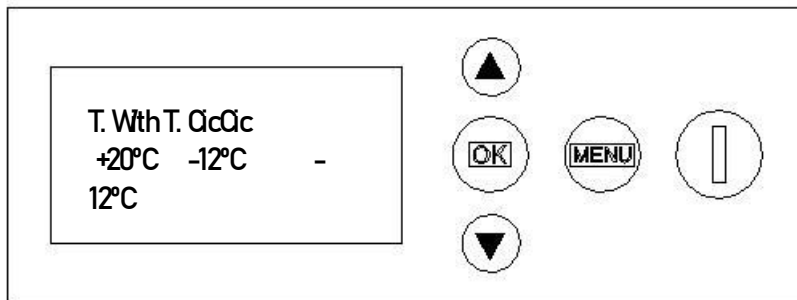
Once in the menu, by pressing the "Up/Down" key we can see the different available parameters.

12.7.1. Ambient Probe Temperature / Cycle Probe Temperature

Ambient probe "T.amb": It only functions as a thermometer, without influencing the machine's working cycle in any way. It will display the instantaneous temperature on the screen. In case the probe is defective, it will indicate: "error" instead of the °C value. Since it is optional to install, if it is not installed, the display will show dashes "_ _ _ _".

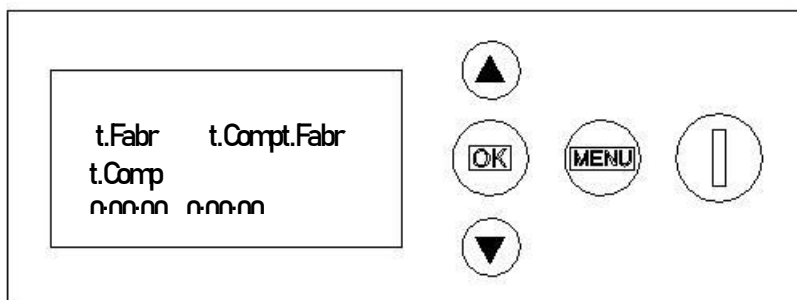
Cycle probe "t.Cic": It will display the instantaneous temperature of the cycle probe on the screen. If the probe is defective, the machine will stop and it will indicate on the screen: "CYCLE PROBE ALARM".

Both temperatures on the same screen.



12.7.2. Last cycle manufacturing time / Last cycle total time

This menu will display information from the last processed cycle "t.Fabr".
 The manufacturing time of the last cycle will be displayed on the screen in "h:mm:ss".
 The total time of the last cycle will also be displayed on the screen in "h:mm:ss".
 Both times on the same screen.



12.7.3. Instantaneous time current cycle / Remaining time current cycle

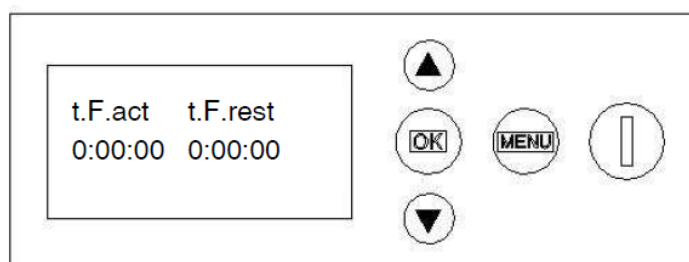
In this menu, information about the current cycle in process "t.F.act" will be displayed. The cycle is equal to the manufacturing time plus the take-off time.

Therefore, there are two situations: manufacturing and take-off. In each of them, the screen will change and display the corresponding information as follows:

Current cycle: manufacturing (interval 3-5). Instantaneous manufacturing time current cycle "tf counter" / Remaining manufacturing time current cycle "t.F.rest".

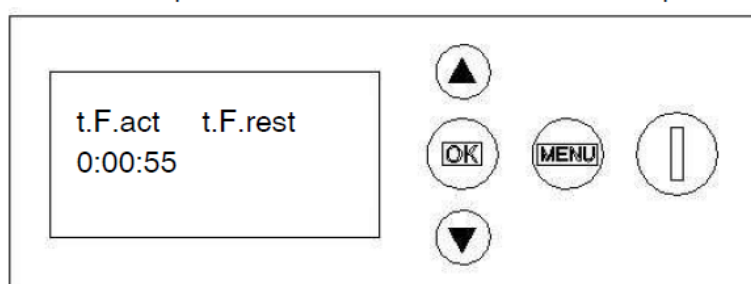
A counter will be displayed on the screen with the ongoing manufacturing time of the current cycle in "h:mm:ss".

A counter will also be displayed on the screen with the remaining manufacturing time "t.F.rest" of the current cycle in "h:mm:ss".



Both times on the same screen.

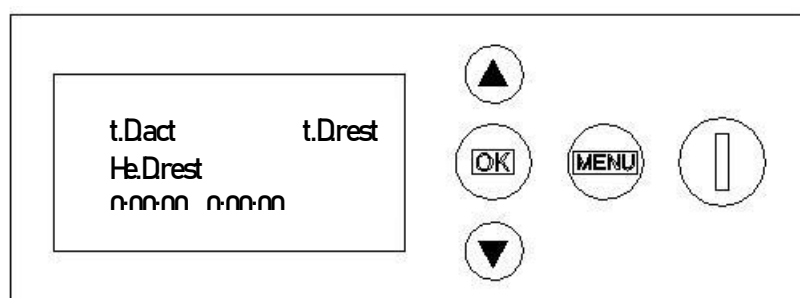
When the cycle is during the variable manufacturing time or cooling time, the remaining manufacturing time is unknown, as the set manufacturing temperature has not yet been reached. In this case, the screen will not display the counter with the remaining manufacturing time "t.F.rest".



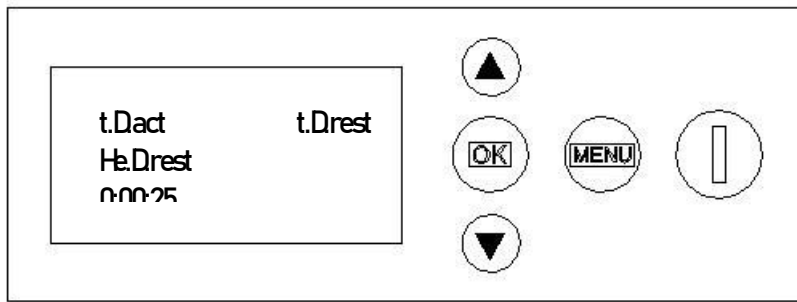
12.7.4. Current cycle: takeoff. Instantaneous takeoff time current cycle / Remaining takeoff time current cycle

A counter will be displayed on the screen with the ongoing takeoff time of the current cycle "t.D.act" in "h:mm:ss". A counter will also be displayed on the screen with the remaining takeoff time of the current cycle "t.D.rest" in "h:mm:ss".

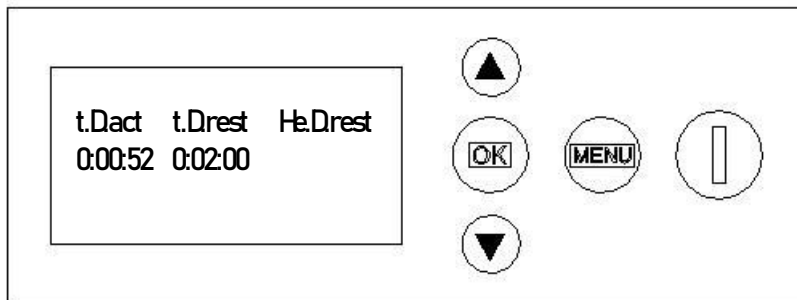
Both times on the same screen.



When the cycle is during variable takeoff time or in heating time, the remaining takeoff time is unknown, as the set takeoff temperature has not yet been reached. In this case, the screen will not display the counter with the remaining takeoff time.



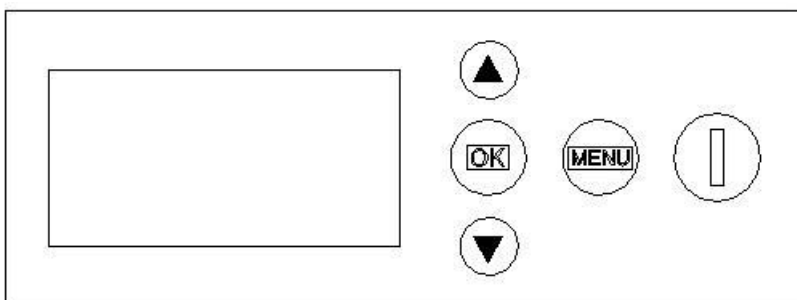
When the set takeoff temperature is reached, the countdown timer with the remaining time will also be displayed on the screen, as it starts counting.



12.7.5. Status of inputs/outputs

It will provide information on which outputs and inputs are activated. It will appear on the upper screen.

"1 1 2 3 4" or "1 2 3 4". On the lower screen, the character will be filled with a filled box if the output/input is activated, and it will not be filled (it will be empty) if it is not.

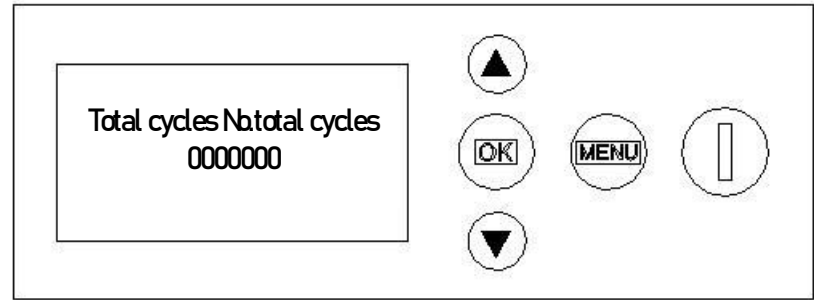


The input and output will be listed with a number, and the assignment table is as follows:

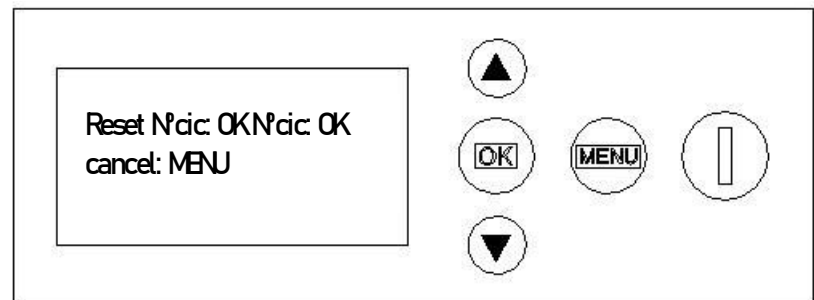
Inputs	
Warehouse Thermostat	1
Safety Pressure Switch	2
Flooding	3
Free Input	4
Outputs	
Compressor / Fan	1
Pump	2
Hot gas solenoid valve	3
Water inlet solenoid valve	4

12.7.6. COMPLETE CYCLE COUNTER

A counter will be displayed on the screen indicating the value of the sum of complete cycles that the machine has performed. For each complete cycle time, one cycle will be counted.



By pressing the "OK" button for 3 seconds, a reset to 0 can be performed, the screen will display:



If "OK" is pressed, the counter will reset to zero and return to the total cycle number screen with zero cycles.

If "MENU" is pressed, the reset will be canceled and the screen will display the total number of cycles that was previously shown. The value will be saved even if the machine is disconnected from the network.

12.7.7. EXIT

With this option, we will return to the main screen.

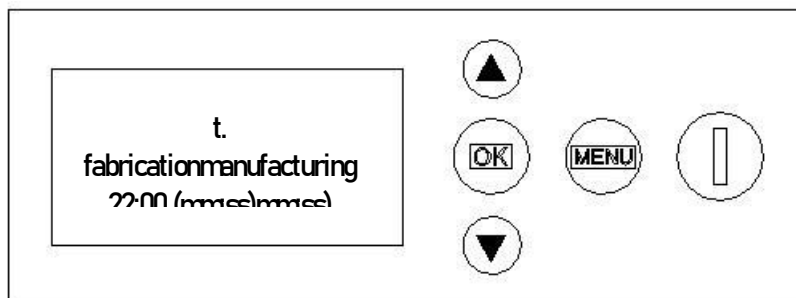
12.8. MENU SETTINGS

Access is granted by pressing “Up/Down” simultaneously for 3 seconds. It can be accessed at any time during the machine's operation or when the machine is turned off. It allows modification of the machine's working parameters. Once in the menu, by pressing the “Up/Down” key, we can see the different available parameters.

12.8.1. FIXED MANUFACTURING TIME

The fixed manufacturing time can be modified using the arrows and will be measured in minutes and seconds with a resolution of 1 second.

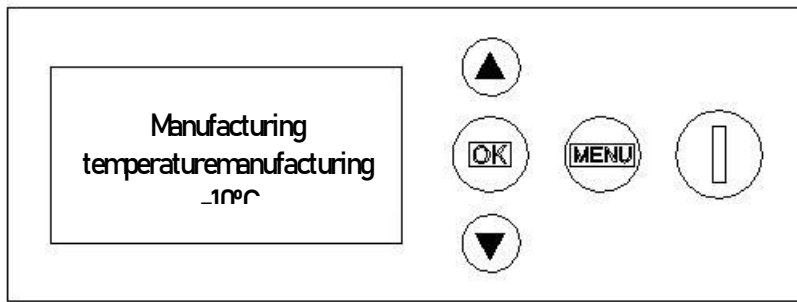
The value is modified with “Up/Down”. By pressing “OK”, we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.2. MANUFACTURING TEMPERATURE OF CONSIGNMENT

With this parameter, we can modify the setpoint manufacturing temperature of the machine. By pressing the arrows, we can increase or decrease this temperature by $\pm 1^{\circ}\text{C}$ with each press. It will be measured in degrees Celsius with a resolution of 1°C .

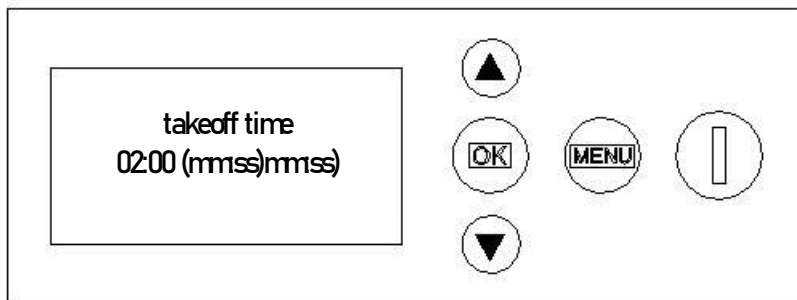
The value is modified with “Up/Down”. By pressing “OK”, we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.3. FIXED TAKEOFF TIME

The fixed takeoff time can be modified using the arrows and will be measured in minutes and seconds with a resolution of 1 second.

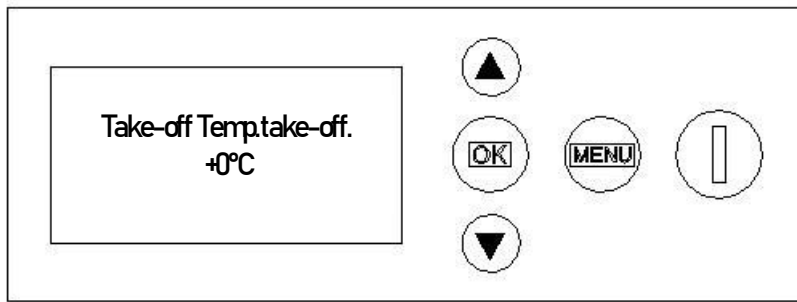
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.4. SETPOINT TAKEOFF TEMPERATURE

With this parameter, we can modify the setpoint take-off temperature of the machine. By pressing the arrows, we can increase or decrease this temperature by $\pm 1^{\circ}\text{C}$ with each press. It will be measured in degrees Celsius with a resolution of 1°C .

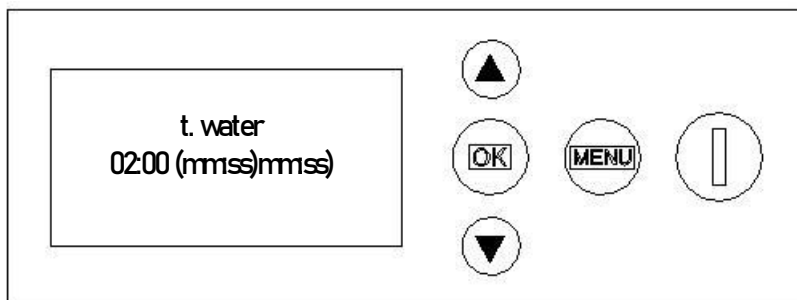
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.5. WATER ENTRY TIME

The water entry time occurs during the fixed take-off time. It can be modified using the arrows and will be measured in minutes and seconds with a resolution of 1 second.

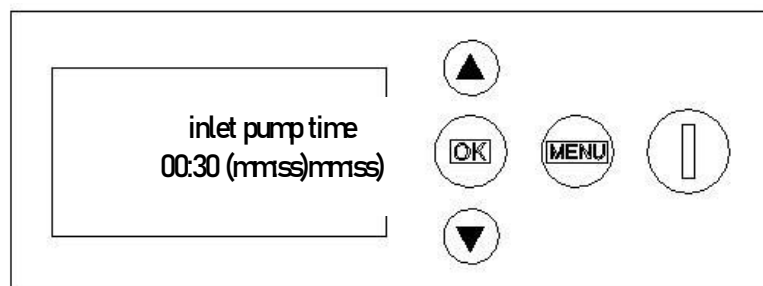
The value is modified using "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.6. PUMP TIME DURING INITIAL TAKE-OFF

The bomb time at the initial takeoff is the time that occurs at the beginning of each variable takeoff time. It will be measured in minutes and seconds with a resolution of 1 second.

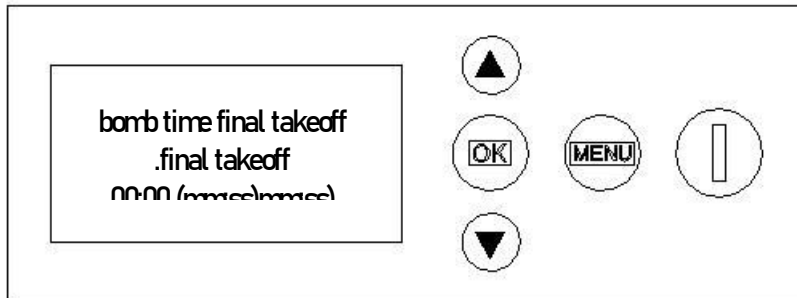
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.7. BOMB TIME AT THE FINAL TAKEOFF

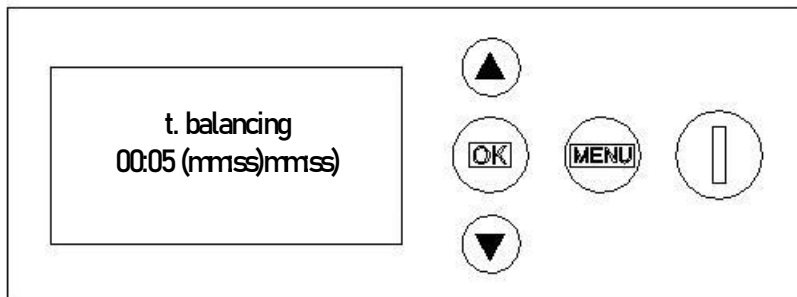
The bomb time at the final takeoff is the time that occurs before the end of each fixed takeoff time.

The value is modified with “Up/Down”. By pressing “OK”, we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.8. HOT GAS BALANCING TIME DURING STARTUP

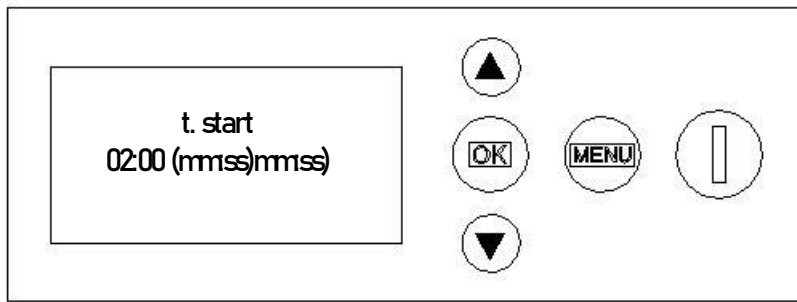
The hot gas solenoid valve must open 5 seconds before the compressor starts. DO NOT MODIFY
The value is modified with “Up/Down”. By pressing “OK”, we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.9. STARTUP TIME

The startup time marks the time when the machine ignition begins. The water and hot gas solenoid valves are connected. It will be measured in minutes and seconds with a resolution of 1 second.

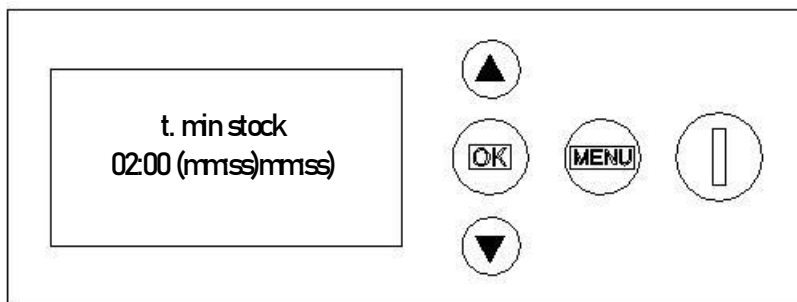
The value is modified with “Up/Down”. By pressing “OK”, we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.10. MINIMUM STOP TIME FOR FULL STORAGE

The minimum stop time for full storage will default to 2 minutes. It will be measured in minutes and seconds with a resolution of 1 second.

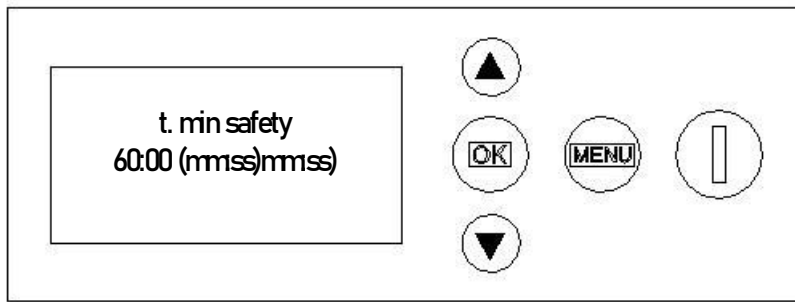
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.11. MINIMUM STOP TIME FOR SAFETY PRESSURE SWITCH

The minimum stop time for the safety pressure switch will default to 60 minutes. It will be measured in minutes and seconds with a resolution of 1 second.

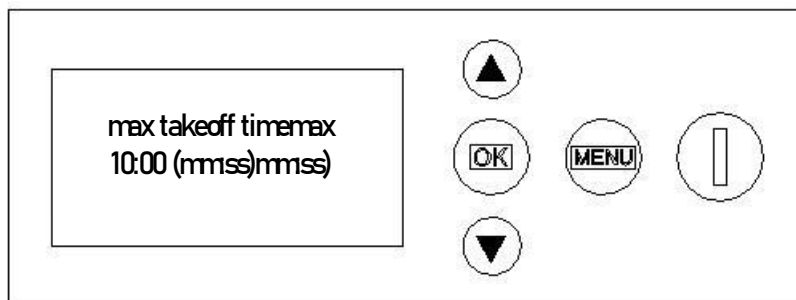
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.12. MAXIMUM VARIABLE TAKEOFF TIME

The maximum variable takeoff time will measure the maximum time the machine must wait before producing an alert without reaching the set takeoff temperature. It will be measured in minutes and seconds with a resolution of 1 second.

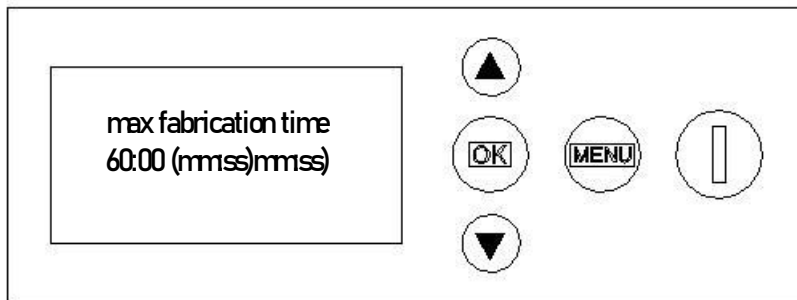
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.13. MAXIMUM VARIABLE MANUFACTURING TIME

The maximum variable manufacturing time will measure the maximum time the machine must wait before producing an alert without reaching the set manufacturing temperature. It will be measured in minutes and seconds with a resolution of 1 second.

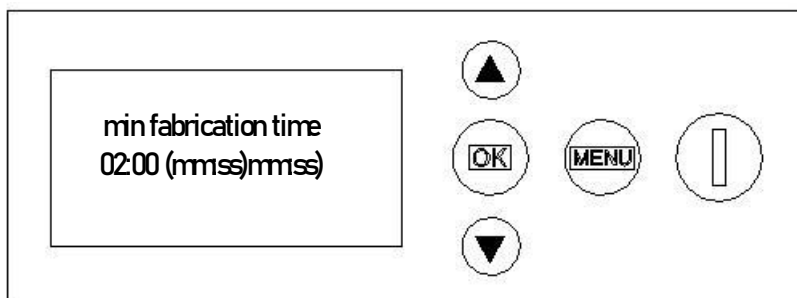
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.14. MINIMUM VARIABLE MANUFACTURING TIME

The minimum variable manufacturing time will measure the minimum time that the machine must wait before starting the manufacturing time. It will be measured in minutes and seconds with a resolution of 1 second.

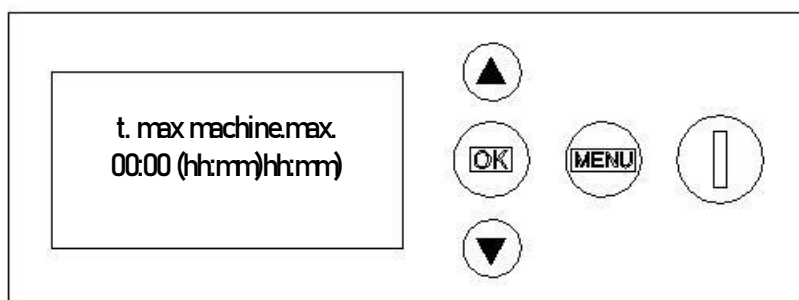
The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.



12.8.15. MAXIMUM MACHINE TIME

The maximum machine time measures the maximum continuous operating time of the machine without any stops. It will be measured in hours and minutes with a resolution of 1 minute. It allows for a scheduled defrosting with a time of your choice.

The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.

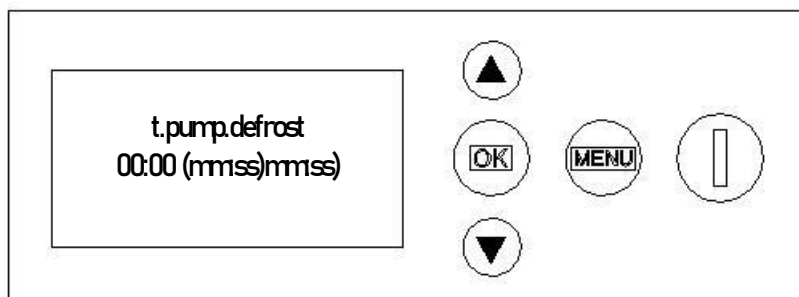


ATTENTION: FOR INSTALLATIONS WITH CONTINUOUS INDUSTRIAL USE OF THE UNIT, IT IS ADVISED TO CHANGE THE MAXIMUM MACHINE TIME PARAMETER TO 20 MINUTES EVERY TWO DAYS.

12.8.16. PUMP TIME FOR DEFROSTING

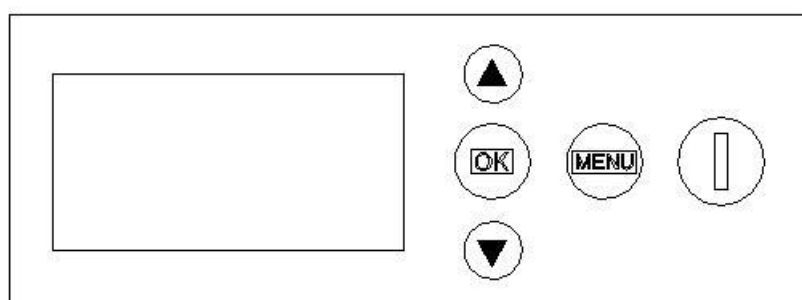
The pump time for defrosting is the time that occurs when the maximum machine time has been reached. It will be measured in minutes and seconds with a resolution of 1 minute.

The value is modified with "Up/Down". By pressing "OK", we can save this parameter and proceed to the next one. The value will be saved even if the machine is disconnected from the network.

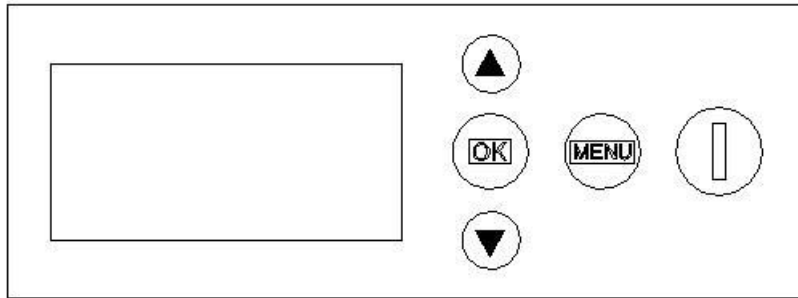


12.8.17. BY DEFAULT

This option will return all machine parameters to the default factory settings.



By holding down the “OK” button, the screen will display:



If “OK” is pressed, all default values will be applied and the configuration menu will be returned to. If “MENU” is pressed, we will exit this option without making any changes, returning to the configuration menu.

12.8.18. EXIT

Selecting this option will exit the Settings Menu and return us to the main screen.