

USER MANUAL

Solid Ice Cubes R454C



SPRAY SYSTEM
SISTEMA DE DUCHAS

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1. INTRODUCTION

Thank you for purchasing an ice cube machine from the 'MR400' range. You have bought one of the most reliable ice machines on the current market.

Please carefully read the instructions contained in this manual, 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 supplies behind the device.
- Always disconnect the machine BEFORE cleaning it or performing any maintenance.
- Any modifications required to the electrical installation must be carried out only by qualified personnel.
- Use this machine only for 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 persons 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 drinking 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 the highest 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 adequate 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 continuous sources of ignition (for example: open flames, gas appliances, or electric heaters).
- Do not puncture or burn it.
- Please note that refrigerants may have no odor.

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 INVOICE THEM SEPARATELY.



This signal indicates that the machine should only be connected to the potable (drinking) 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 installed as a freestanding appliance or a built-in one.
- 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 appliance, unless they are of the type recommended by the manufacturer.
- This appliance must be installed in accordance with the Safety Standard for Refrigeration Systems ANSI/ASHRAE 15.
- Components must be replaced with similar ones to minimize the risk of possible ignition due to incorrect parts.
- Do not store explosive substances in the appliance, 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 appliance is located by opening doors or windows.
- Call an authorized technical service.

2.RECEIVING THE MACHINE

Inspect the packaging externally. If it appears broken or damaged, NOTIFY THE CARRIER IMMEDIATELY.

To determine if the machine has any damage, UNPACK IT IN THE PRESENCE OF THE CARRIER and document any damage 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 state the machine number and model. This number is printed in three places:

2.1.- PACKAGING

Externally, it has a label with the manufacturing number. (Figure I)



2.2.- EXTERIOR OF THE EQUIPMENT

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

Figure I

2.3.- SPECIFICATIONS PLATE

It is located at the back of the machine.

Check that the following items are inside the machine:

- Manual.
- Label with warranty and serial number.
- Installation kit, consisting of a $\frac{3}{4}$ gas connection and a filter gasket.

ITV Ice Makers		S/N: 2601001354727	
GALA MR400A 400/50/III R454C		CD: 13400L	
Volt.	Ph.	Hz.	A.
380-400 ~	3N	50	7,65
Ref.	B.	W.	Clas.
R454C	1100	3745	T
condensacion-condensation-kondensation		Made in Spain/EU	
AIRE-AIR-LUFT			
CE EAC		UK CA	

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 people, animals, or property, for which the manufacturer will not be held responsible.

3.1.- SITE CONDITIONS

WARNING: The machines are designed to operate with ambient temperatures between 10°C and 43°C (50°F and 109°F), and with water inlet temperatures between 5°C and 35°C (41°F and 95°F).

Operating the machine below the minimum ambient or water temperatures may prevent proper ice release. Operating above the maximum recommended temperatures will reduce ice production and may shorten the compressor's service life.

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

3.2.- WATER SUPPLY AND DRAINAGE

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

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

The machine has a double water circuit, one to condense 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 impurities 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 the installation of 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. Limescale deposits will form in the machine, which can interfere with its proper functioning. Water condensation may lead to 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

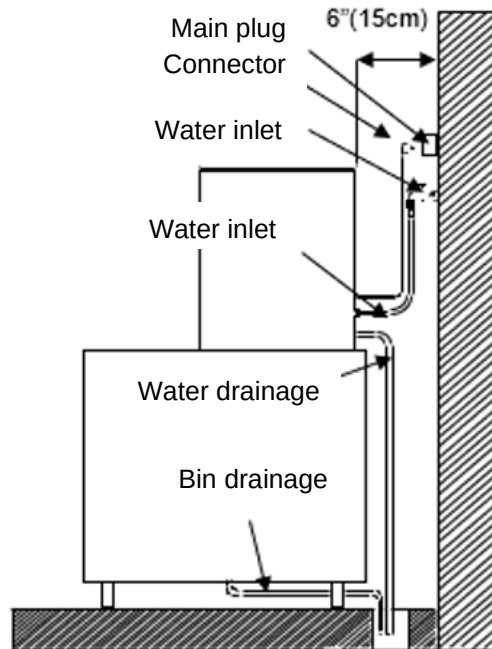
Use the flexible connection (length 1.3 m) with the two filter gaskets provided with the machine. We do not recommend using shut-off valves with dual outlets, as one outlet may be accidentally closed, interrupting the water supply to the machine. The water pressure should be between 1 and 6 bar. If the 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 filter receives hot air from the machine. This would cause production to decrease as the water would heat up.

3.4 DRAIN CONNECTION

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

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 power cord. If the power cable is damaged, it must be replaced with a special cable or set to be supplied by the manufacturer or after-sales service.

The machine should be placed in such a way that there is minimum space between the back of the machine 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. Voltage variations exceeding 10% of the value indicated on the plate may cause malfunctions or prevent the machine from starting.

The line to the base of the socket must have a section suitable for the intensity indicated on the plate.

Check that the supply voltage of the network and the one indicated on the specification 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's box).

3.6 STACKING KIT

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

Reference	Description	Units	Comments
8141	STACKING OUTLET	1	Output assembly (Detail B)
8823	STACKED RAMP-PLATE SET	1	Ice discharge ramp assembly 3x1mm2 interconnection hose for machines
8824	STACKED RAMP TEMPLATE	1	Ice discharge ramp assembly 3x1mm2 interconnection hose for machines
8145	STACKED CABLE KIT	1	Ice discharge ramp assembly 3x1mm2 interconnection hose for machines
2452	DIN 127 M-8 GROVER ZINC WASHER	4	Assembly of one machine on top of another (Detail A)
2515	DIN 9021 M-8X23 ZINC WASHER	4	Assembly of one machine on top of another (Detail A)
8142	STACKED SPACER	4	Assembly of one machine on top of another (Detail A)
285	NUT DIN 934 M-8 ZINC	4	Assembly of one machine on top of another (Detail A)
722	TOWER. DIN 912 M-8X50 GALVANIZED	4	Assembly of one machine on top of another (Detail A)
244	TOWER. DIN 7981 2.9X9.5 INOX	2	Output assembly (Detail B)
302	RIVET 4X10 STAINLESS STEEL	3	Assembly of one machine on top of another (Detail A)

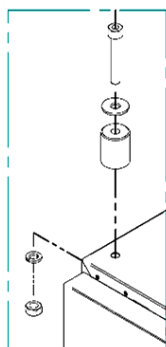
To stack machines, we need to make some modifications to the electrical connections of the machine. Before the electrical installation, we must perform the stacking. Additionally, the connection of the stock thermostats in both machines must be modified.

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

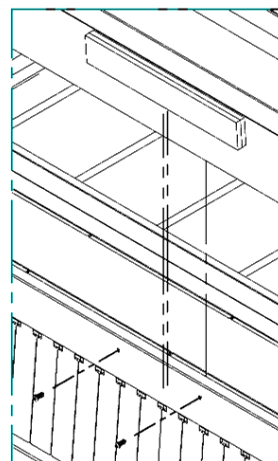
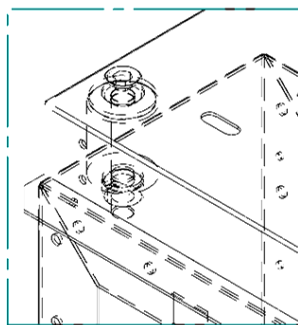
3.6.1 MACHINE STACKING

To stack the machines, 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.

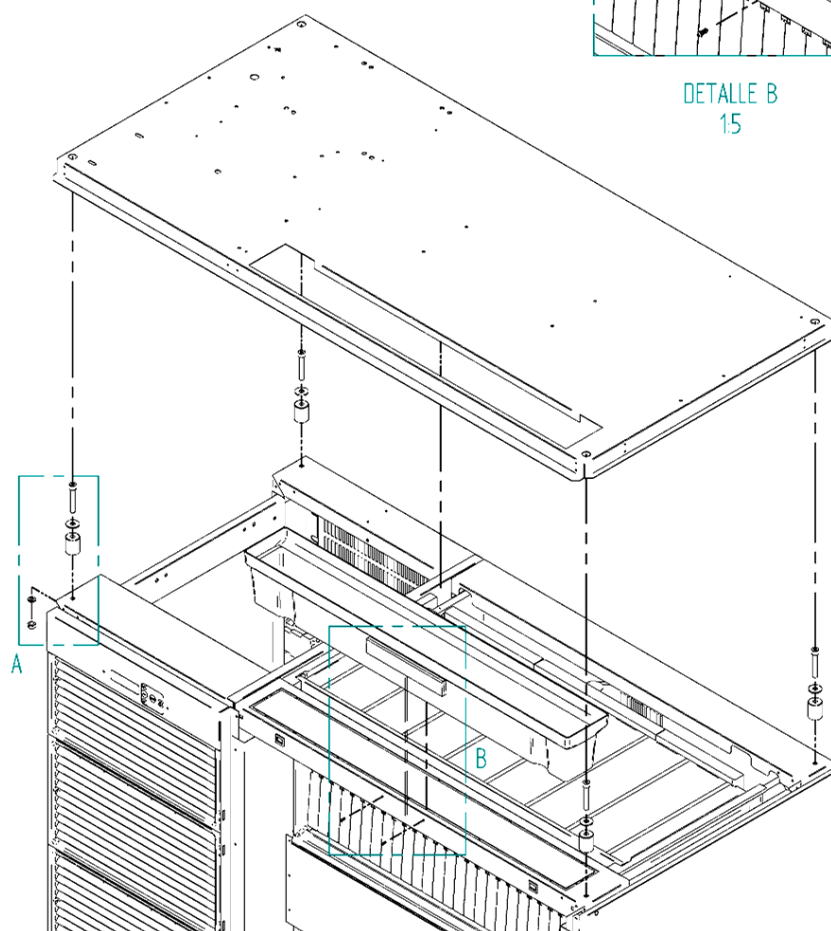
Once the top and front panels are removed, we must install the kit as shown in details A and B. To install the outlet, in the lower machine, the plate covering the ice outlet hole must first be removed (remove micro fasteners and file the perimeter).



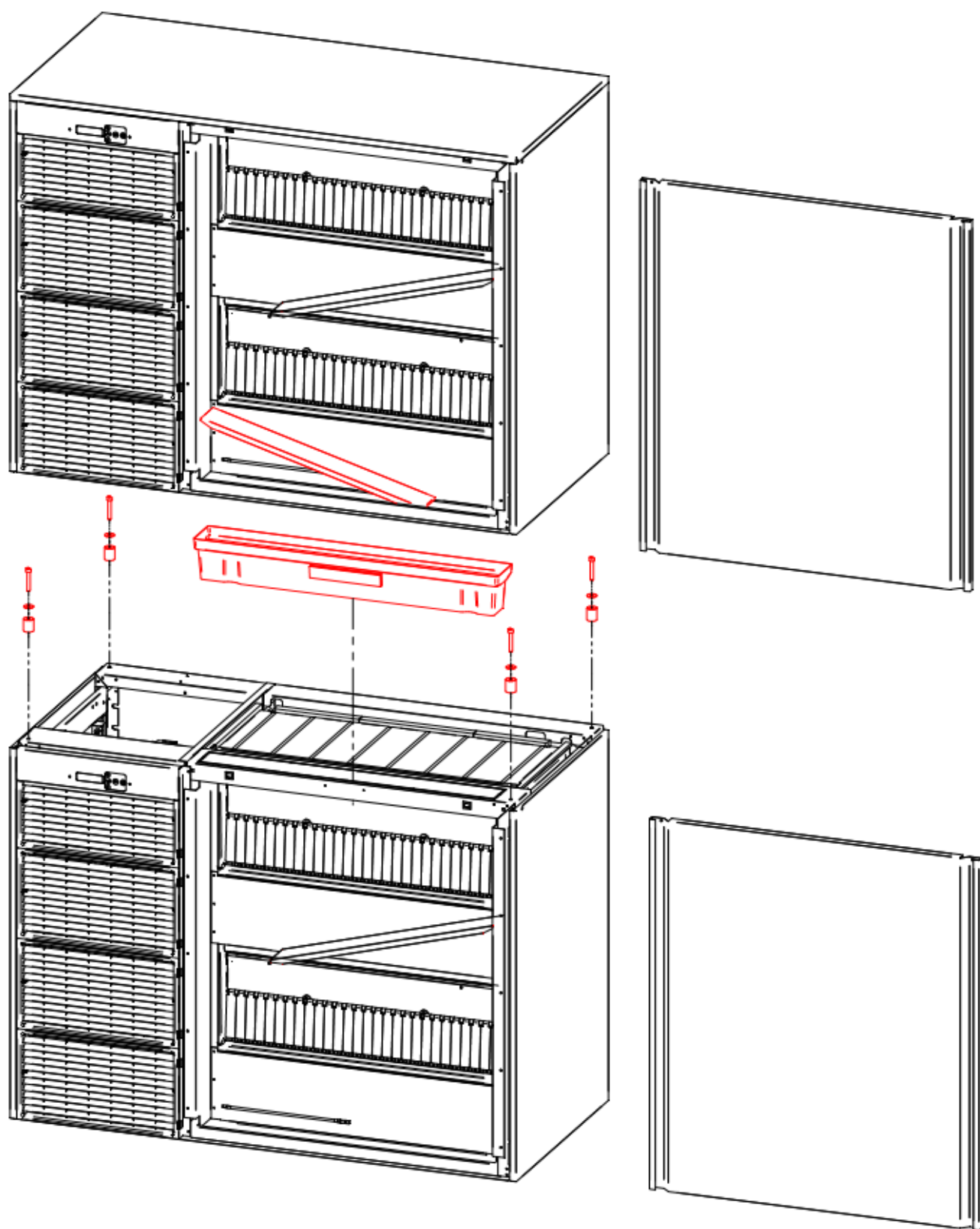
DETALLE A
1:5



DETALLE B
1:5



STACKING OF MACHINES: DIAGRAM



The following steps show the placement of the ramps:

1. Position the two machines in their stacked configuration.
2. Remove the front panels from both machines.
3. Remove the three rivet nuts to allow the ramp to be secured in place.
4. Install and fasten Ramp 30681 as shown in the illustration.
5. Verify that the ramps are installed in their final position, as shown



3.4.- INSTALLATION OF EQUIPMENT

MODULAR ICE MAKERS ON DEPOSITS

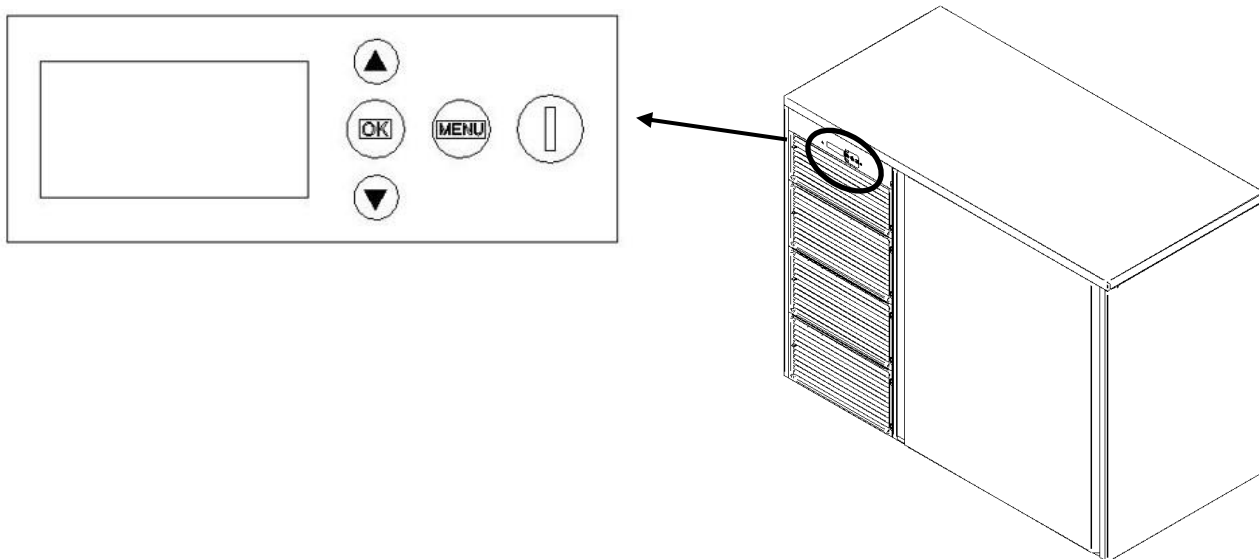
The modular makers must be installed on deposits or silos, following the instructions contained in this manual.

The strength and stability of the container-machine set must be verified, as well as the fixation of the elements. The drain must be lower than the drain area of the basin/silo and always, the hose must be in a downward position, NEVER upward.

IT IS IMPORTANT THAT THE WATER SUPPLY PIPE DOES NOT PASS THROUGH OR NEAR HEAT SOURCES TO AVOID LOSING ICE PRODUCTION

4.CONTROL PANEL

The exterior panel is located at the front of the machine, in the upper left corner and has 5 buttons:



4.1. BUTTONS

ON-OFF

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

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

OK: Confirm menu options or programming values.

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

4.2. MENUS

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

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

- Time setting "Set time": Select this option and use the UP and DOWN buttons to adjust the hour. Press OK to confirm, then adjust the minutes. Press OK again to save the settings and return to the Main Menu.  
- Scheduler "Scheduler": This option allows you to program the machine's automatic start and stop times. Select Scheduler, then select Activate. Once activated, the Start and End time settings will appear for programming.. 
- Language "Language": Once located in the menu, we select the language with the buttons and press OK.  
- Exit "Exit"

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

- Ambient probe temperature "T.amb".
- Cycle probe temperature "t.Cic".
- Manufacturing time of the last cycle "t.Fabr"
- Full time of the last cycle "t.Comp"
- Instantaneous manufacturing time of the current cycle "t.F.act"
- Remaining manufacturing time of the current cycle "t.F.rest"
- Instantaneous takeoff time of the current cycle "t.D.act"
- Remaining takeoff time of the current cycle "t.D.rest"
- State of the inputs "On/off" "I1234"
- State of the outputs "On/off" "O1234"
- Cycle counter
- Exit

Configuration menu: We will access 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.fabricación"
- Setpoint manufacturing temperature "Temp.fabr"
- Fixed takeoff time "t.despegue"
- Takeoff temperature setpoint "Temp.desp"
- Water entry time "t.agua"
- Pump time at initial takeoff "t.bomba desp.in"
- Pump time at final takeoff "t.bomba desp.fin"

- Balancing time (hot gas) during startup "t.equilibrado"
- Startup time "t.arranque"
- Minimum stop time for full storage "t.stock min"
- Minimum stop time for 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.machine max"
- Pump time for defrosting "t.pump.defrost"
- By default "standard values"
- Exit

5.STARTUP

5.1. PREVIOUS REVIEW

- Is the machine level?
- Are the voltage and frequency the same as on the nameplate?
- Are the water and drainage connections connected and operating?
- In case of Air Condensation: Is the air circulation appropriate?
- Are the room and water temperature appropriate?

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

- Is the water pressure adequate?

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

- The conductivity of the water must be at least 10 microsiemens

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

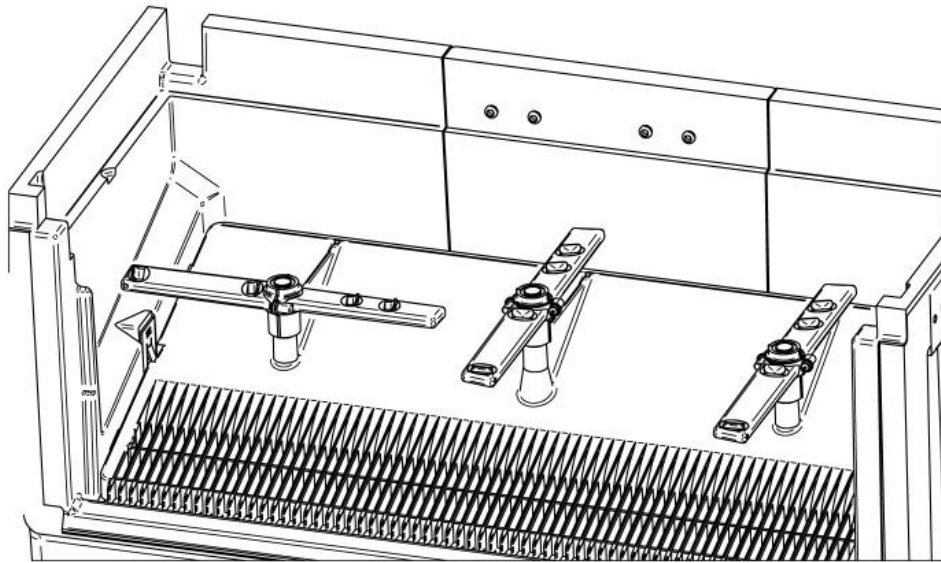
5.2. STARTING THE MACHINE

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

- Open the water supply valve. Check for leaks.
- Connect the machine to the electrical network with its corresponding protection.
- Press the button on the display installed on the front of the machine.
- Check that there are no elements that abnormally rub or vibrate.
- Check that the curtain moves freely.
- Check that the injectors send water to the evaporator in the correct direction.
- Check that the collectors rotate freely on their axis.
- 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 to be used, remove that

plastic (by opening the upper compartment, display area, access the electronic board box, and inside you will find the battery with the plastic).



6. MAINTENANCE AND CLEANING INSTRUCTIONS



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

All the ice 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 ANY BREAKDOWNS 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

PERFORMANCE	MONTHLY	QUARTERLY	BIANNUALLY	ANNUAL	BIENNIAL	UNIT T
Cleaning of the air condenser						30 Minutes
Cleaning of the water condenser						90 minutes
Injector cleaning						30 Minutes
Manufacturing water circuit cleaning						45 minutes
Sanitary cleaning						30 Minutes
Water filter cleaning/replacement						30 Minutes
Exterior cleaning						

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

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

6.1. WATER CONDENSER

- 1) Disconnect the machine from the electrical power supply.
- 2) Disconnect the water inlet or shut off the water supply.
- 3) Disconnect the water inlet and outlet of the condenser.
- 4) Prepare a 50% solution of phosphoric acid and distilled or demineralized water (or suitable product for cleaning the water circuit of the condenser).
- 5) Circulate it through the condenser. (The mixture is more effective hot - between 35° and 40° C).

Do not use hydrochloric acid.

6.2. AIR CONDENSER

- 1) Disconnect the machine from the electrical power supply.
- 2) Disconnect the water inlet or shut off the water supply.

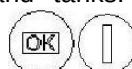
- 3) Clean the condenser with the help of a vacuum cleaner, non-metallic brush, or low-pressure air.

6.3. EVAPORATOR / WATER TANK

6.3.1 CLEANING INSTRUCTIONS

1. We recommend using the cleaning product Calkin. Prepare a 50% solution of phosphoric acid and distilled water. Do not use hydrochloric acid. By removing the rear panel, we will have access to the manufacturing tanks. By removing the cover that anchors the pump, 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.

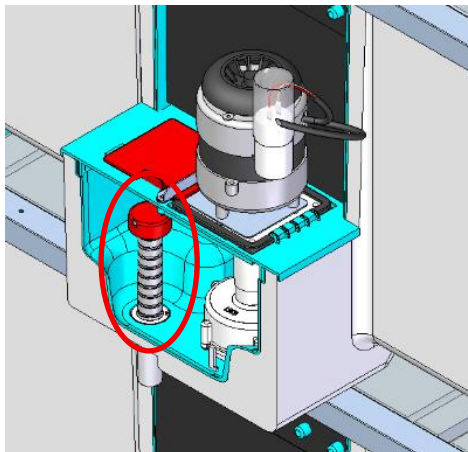


3. Allow the cleaning solution to circulate for 10 minutes.

4. After 10 minutes, 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 install the overflow pipes.

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

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

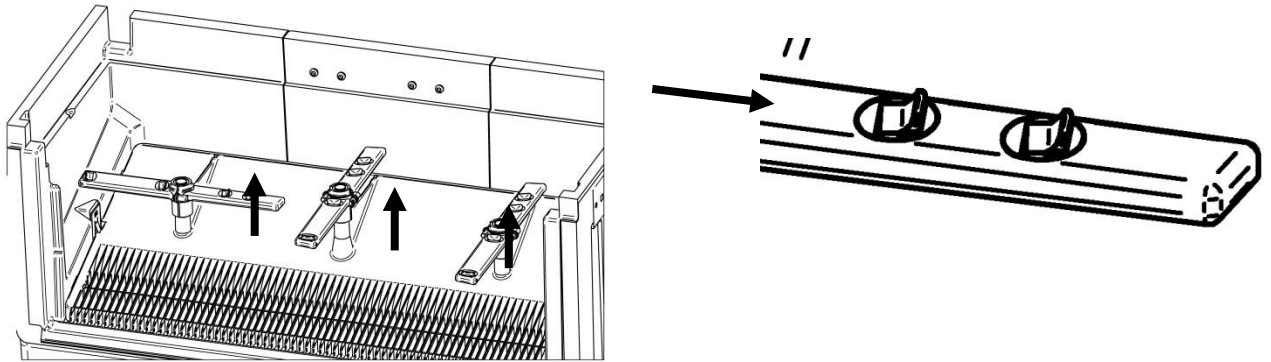
8. Clean and assemble all components, check that the grid is clean and that the ice cubes slide well. Check that no blade is stuck in the curtain.

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

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

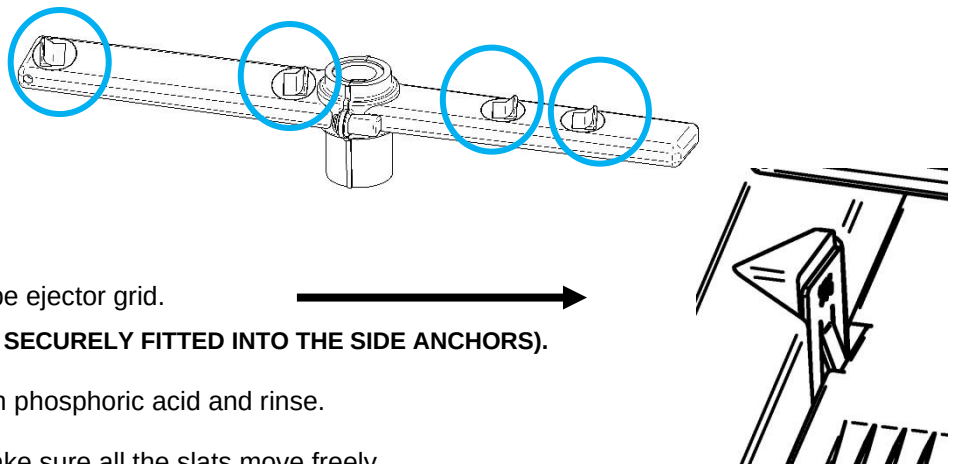
6.4. COLLECTOR AND INJECTORS

1. Remove the curtain. Take out the collectors from their axes by pulling slightly upwards.



2. Remove the ice drop expulsion grid. (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 press-fitted)
5. Assemble the filter, injectors, and manifolds.

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



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

6.5. CLEANING OF INLET FILTERS

They tend to get clogged in the first few days of the machine running, especially with new

plumbing installations. Disconnect the hose and clean them under running water.

6.6. *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.