

## PREVENTIVE MAINTENANCE

For the application of the guarantee



	<b>NG´s</b>	<b>SPIKA NG</b>	<b>SPIKA MS</b>	<b>IQ / IQN</b>
	Delta Max Delta Gala Super Star	Full Dice Half Dice	Full Dice Half Dice	Granular Ice Nugget Ice
<b>1</b> Air condenser cleaning	Minimum every 6 months. If dusty environment, every 3 months.			
<b>2</b> Hydraulic circuit cleaning	Every 6 months if water quality >200 ppm. Every 12 months if water quality <200 ppm solid residue			
<b>3</b> Interior cleaning bin, curtain, sensor	Annual. Bin and curtain	Annual. Bin and curtain	Annual. Curtain and magnetic sensor	Annual. Bin
<b>4</b> Change filter cartridge	It depends on the quality of the water at the location, the consumption of the machine and the capacity of the filter to act until it is worn out or saturated. They must prevent particles from entering or precipitating limescale in the hydraulic circuit of the machine.			
	20 micron filter and limescale protection if >30°F hardness	20 micron filter and limescale protection if >30°F hardness	20 micron filter and limescale protection if >30°F hardness	5 micron filter and limescale protection if >30°F hardness
<b>5</b> Reapplication of screws in electromechanical electrical panels	Not required in R290	Not required in R290	Not required in R290	Required in R290

The quality of water entering an ice machine must have a minimum of 60 ppm (6°F hardness). Water below this value, which is too pure, can cause lift-off problems in the evaporator. In case of water quality > 300 ppm (30°F hardness), the use of filters or decalcifier is necessary so that limescale does not precipitate inside the machine.

# 1

## AIR CONDENSER CLEANING

	NG's	SPIKA NG	SPIKA MS	IQ / IQN
1	Cleaning of the air condenser must be carried out using a Hoover, non-metallic brush or low pressure air.			
2	The Hoover alone should be sufficient to remove accumulated dirt during preventive maintenance.			
3	Use the brush to remove the most encrusted dirt.			

# 2.1

## HYDRAULIC CIRCUIT CLEANING (MACHINES WITH ELECTRONIC BOARD)

NG's	SPIKA NG
<ol style="list-style-type: none"> <li>1. Switch off the machine, turn off the water.</li> <li>2. Uncover the water tank (rear of the machine) and remove the maximum level overflow.</li> <li>3. Fit the overflow. Remove the evaporator cover</li> <li>4. Prepare Calkin cleaning product or, failing that, a 50/50 solution of phosphoric acid and water. Do not use salfuman - hydrochloric acid. Pour this solution slowly into the top of the evaporator, until it overflows into the water tank. The mixture is most effective with water between 35°C. and 40°C.</li> <li>5. Switch on the machine by pressing the SW3 button at the same time and leave the solution to act for 20 minutes.</li> <li>6. Switch off the machine and remove the overflow, wait for the water tank to empty. Replace the overflow.</li> <li>7. Refill the system to the maximum level of the water tank with the same solution. Switch on the machine (the water must be turned off) and wait 20 minutes.</li> <li>8. Turn on the water and switch on the machine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch off the machine, turn off the water.</li> <li>2. Uncover the water tank (rear of the machine) and remove the maximum level overflow.</li> <li>3. Fit the overflow. Remove the evaporator cover</li> <li>4. Prepare Calkin cleaning product or, failing that, a 50/50 solution of phosphoric acid and water. Do not use salfuman - hydrochloric acid. Pour this solution slowly into the top of the evaporator, until it overflows into the water tank. The mixture is most effective with water between 35°C. and 40°C.</li> <li>5. Switch on the machine by pressing the SW3 button at the same time and leave the solution to act for 20 minutes.</li> <li>6. Switch off the machine and empty the water tank using the drain pipe installed on the pump drive (there is a direct access on the rear panel), wait for the water tank to empty. Put the drain back in place.</li> <li>7. Refill the system to the maximum level of the water tank with the same solution. Switch on the machine (the water must be turned off) and wait 20 minutes.</li> <li>8. Turn on the water and switch on the machine.</li> </ol>

NG's	SPIKA NG	SPIKA MS	IQ 50/85	IQN
<ol style="list-style-type: none"> <li>1. Switch off the machine, turn off the water and set the cleaning switch installed on the control panel to 0 to stop the compressor.</li> <li>2. Uncover the water tank (rear of the machine) and remove the maximum level overflow.</li> <li>3. Fit the overflow. Remove the evaporator cover</li> <li>4. Prepare Calklin cleaning product or, failing that, a 50/50 solution of phosphoric acid and water. Do not use sulfaman - hydrochloric acid. Pour this solution slowly into the top of the evaporator, until it overflows into the water tank. The mixture is most effective with water between 35°C. and 40°C.</li> <li>5. Switch on the machine and leave the solution to act for 20 minutes.</li> <li>6. Switch off the machine and remove the overflow, wait for the water tank to empty. Replace the overflow.</li> <li>7. Refill the system to the maximum level of the water tank with the same solution. Switch on the machine (the water must be turned off) and wait 20 minutes.</li> <li>8. Turn on the water, set the cleaning switch to I and switch on the machine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Switch off the machine, turn off the water and set the cleaning switch installed on the control panel to 0 to stop the compressor.</li> <li>2. Uncover the water tank (rear of the machine) and remove the maximum level overflow.</li> <li>3. Fit the overflow. Remove the evaporator cover</li> <li>4. Prepare Calklin cleaning product or, failing that, a 50/50 solution of phosphoric acid and water. Do not use sulfaman - hydrochloric acid. Pour this solution slowly into the top of the evaporator, until it overflows into the water tank. The mixture is most effective with water between 35°C. and 40°C.</li> <li>5. Switch on the machine and leave the solution to act for 20 minutes.</li> <li>6. Switch off the machine and empty the water tank using the drain pipe installed on the pump drive (there is a direct access on the rear panel), wait for the water tank to empty. Put the drain back in place.</li> <li>7. Refill the system to the maximum level of the water tank with the same solution. Switch on the machine (the water must be turned off) and wait 20 minutes.</li> <li>8. Turn on the water, set the cleaning switch to I and switch on the machine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove the screws from the top cover of the unit.</li> <li>2. Remove the front door.</li> <li>3. Empty the water tray.</li> <li>4. Prepare Calklin cleaning agent or, failing that, a 50/50 solution of phosphoric acid and water.</li> <li>5. To start the cleaning cycle, move the work switch to the cleaning position (position II). The machine drains the tank and refills it. Pour the cleaning solution into the tank.</li> <li>6. Allow the solution to circulate through the water distribution system for 30 to 40 minutes and then set the working (ice-cleaning) switch to the Off position.</li> <li>7. After cleaning, empty the water tray.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect the power supply to the machine.</li> <li>2. Turn off the water tap.</li> <li>3. Set the cleaning switch installed on the control panel to 0 to stop the compressor.</li> <li>4. Let the water flow for two to three minutes.</li> <li>5. Once the evaporator is completely empty, reconnect the tubes to the evaporator and to the water tank.</li> <li>6. Prepare a 50% solution of phosphoric acid and water, or use an anti-limescale cleaner such as ITV's Calklin. Do not use sulfaman or hydrochloric acid. Pour this solution slowly into the water tank (remove the lid). The mixture is most effective when hot, between 35°C and 40°C.</li> <li>7. Switch on the power supply and switch on the machine.</li> <li>8. Leave the solution to act for 20 minutes</li> <li>9. After 20 minutes, stop the machine and disconnect the water inlet pipe to the evaporator to completely empty the product used for cleaning.</li> <li>10. Once empty, open the tap to introduce clean water into the circuit.</li> <li>11. Set the cleaning switch installed in the control panel to 1, and let it produce ice.</li> </ol>	<ol style="list-style-type: none"> <li>1. Start the cleaning process when the ice machine stops long enough to ensure that all the ice is melted inside the extruder and evaporator.</li> <li>2. Remove all ice from the silo.</li> <li>3. Remove the rear panel of the machine.</li> <li>4. Remove the plug from the hose and drain the water into a container.</li> <li>5. Return the hose to its original position and reconnect the hose.</li> <li>6. Remove the top panel</li> <li>7. Remove the water tank lid (A), O-ring (B) and ice outlet cover (C) and clean them by hand with the cleaning solution.</li> <li>8. Clean the fallen ice tube (E) with a brush also with the cleaning solution.</li> <li>9. Return the ice outlet cover (C) to its original position.</li> <li>10. Pour the cleaning solution into the water tank (D) until the solution overflows. This means that the system is full of solution. Allow the solution to stand for 10 minutes.</li> <li>11. Keep the machine running to make sure that the electrodes inside the water tank (D) are covered with the cleaning solution to the minimum level as shown in the picture IX pouring the cleaning solution until it is finished, but always keeping the machine connected to the main water supply.</li> </ol>

(\*)**Cleaning solution:** Prepare a solution of a product suitable for cleaning ice machines. Do not use hydrochloric acid. We recommend the use of ScaleKleen. We recommend preparing a 4 litre solution according to the manufacturer's instructions (ScaleKleen) with the total amount of product/water needed. 2 litres for hand washing and 2 litres for the water tank (D). Make more solution if necessary. For maximum effectiveness of the solution, use after dilution.

## 3

## INTERIOR CLEANING STOCK TANK, CURTAIN, SENSOR

	NG's	SPIKA NG	SPIKA MS	IQ / IQN
1	Switch off the machine, turn off the water and empty the stock of ice cubes.			
2	Use a kitchen towel with detergent or bleach to clean the stock tank and curtain.			
3	After cleaning, rinse all components that have been in contact with the product with plenty of water.			
4	On Spika modular machines, attention must be paid to the cleaning of the curtain's manual sensor.			

## 4

## CHANGE FILTER CARTRIDGE

	NG's	SPIKA NG	SPIKA MS	IQ / IQN
1	Disconnect the power supply to the machine.			
2	Close the water inlet valve or tap.			
3	Close the stopcocks upstream and downstream of the filter.			
4	Remove the cartridge and install the new one.			
5	Open the water inlet valve or tap.			
6	Switch on the power supply to the machine.			

## 5

## REAPPLICATION OF SCREWS IN ELECTROMECHANICAL ELECTRICAL PANELS

	NG's	SPIKA NG	SPIKA MS	IQ / IQN
1	Re-tighten all screws of contactors, thermal relays and other electrical components that may be loosened by vibrations in daily operation.			