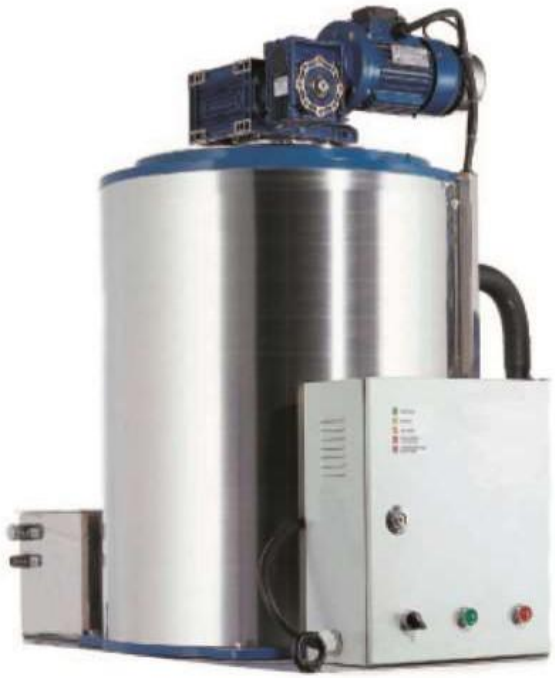
ITV ICE makers



SCALA MAINTENANCE MANUAL

SCALA MAINTENANCE

The Scala flake ice generator is a machine with simple maintenance thanks to its construction. The design of the unit allows the technician to check the main components quickly and efficiently.

This document includes the basic maintenance tasks to be carried out.

It is important to perform proper maintenance on the ice machine in order to maximize its performance and service life. All maintenance and servicing must be carried out by specialized personnel or by those who have been trained by the manufacturer.

⚠ **Attention:** **No cleaning or maintenance work should be carried out before disconnecting the unit from the water and the power supply.**

FUNDAMENTAL MAINTENANCE

SPLIT GENERATOR (indoor unit)

1. Check the electrical wiring. Tighten terminals in the electrical panel. Ensure that the grounding connection is properly installed.
2. Check thermal relays.
3. Check all safety devices that stop the unit to prevent issues with the Split system:
   - Verify that the reducer stops when triggered by the photocell (clean the photocell periodically with a damp cloth).
   - Visual check of the motor-reducer rotation. Change the phase if necessary. **THE ROTATION MUST ALWAYS BE COUNTER-CLOCKWISE.**
   - Verify the unit stops correctly when there is no water supply.
   - Check operating delays: a 3-minute delay for starting the unit and 3 minutes at shutdown (liquid solenoid valve closes, the unit stops due to low pressure, and a 3-minute timer runs while the motor-reducer continues rotating *without the water pump* to remove any remaining ice from the evaporator).
   - Check that when the liquid solenoid valve opens at startup, the water pump, the water solenoid valve (to avoid freezing in the lower part of the unit — applicable to units from 15 tons and above), and the salt dosing pump (only if salt is used; Scala units do not require salt to produce ice) all start in parallel.
4. Visual inspection of the motor-reducer, checking for possible oil leaks in the gearbox.
5. Check that the water pump operates correctly, with the proper rotation direction.
6. Regularly apply anti-rust oil to the surface and screws to ensure proper operation and prevent rust. If screws are found to be rusty, remove the rust layer first and then proceed with opening or tightening.
7. Open and close the manual water inlet valves periodically for maintenance.
8. Bearings are self-lubricated and do not require external lubrication.
9. Clean the water tank filter regularly.
10. Check the water float switches, ensuring they correctly stop water entry and adjust when necessary for proper filling.
11. Replace the inlet water filter when needed.
12. Check the water distributor at the top, ensuring uniform flow, no obstructions, and correct water level — it must always reach the red level marking and never exceed it.
13. Verify that the blade rotates correctly, visually checking that it removes the ice from the evaporator.
14. Visual inspection of the evaporator (inside and outside).
15. Visual inspection of the water deflector (interior).

16. Perform frequent inspections of refrigerant pipes and valves to prevent leaks.
17. Perform frequent inspections of the auger and verify the required clearance between the auger and the evaporator (0.25 mm).
18. Perform proper valve maintenance: Apply anti-rust oil regularly to the surface and screws to ensure correct operation and avoid oxidation. If screws are rusty, first remove the rust layer and then proceed to open or close them.

TIME TABLE/INSPECTION FREQUENCY (according to point 4)

CODE	ITEM	INSPECTION TIME (min)	INSPECTION FREQUENCY
1	Electrical wiring check	15 minutes	3 months
2	Thermal relay check	15 minutes	3 months
3	Safety devices check	45 minutes	3 months
4	Gear motor inspection	5 minutes	6 months
5	Water pump inspection	5 minutes	6 months
6	Lubrication of stainless-steel areas	30 minutes	6 months
7	Water valve maintenance	10 minutes	6 months
8	Bearings	-	-
9	Cleaning of water filter	5 minutes	3 months
10	Float switch inspection	5 minutes	1 month
11	Water filter replacement	5 minutes	6 months / 12 months
12	Water distributor check	5 minutes	1 month
13	Ice blade rotation check	5 minutes	1 month
14	Visual inspection of the evaporator	5 minutes	1 month
15	Visual inspection of the water deflector	5 minutes	1 month
16	Refrigerant piping inspection	30 minutes	1 month
17	Auger inspection	30 minutes	3 months
18	Valve maintenance	45 minutes	3 months

CONDENSING UNIT (indoor / outdoor unit)

OPERATIONS	MONTHLY	QUARTERLY 1500 HOURS	SEMIANNUALLY 3000 HOURS	ANNUALLY 6000 HOURS
Oil level	CHECK	CHECK	CHECK	CHECK
Mouisture level	CHECK	CHECK	CHECK	CHECK
Visual inspection for possible leaks (oil stains)	CHECK	CHECK	CHECK	CHECK
Check tightening of electrical terminals and connections			CHECK	
Check tightening of flare nuts and flexible unions			CHECK	
Condenser cleaning				CHECK
Verification of pressure limiters and safety valves				CHECK
Inspection of safety components in the electrical panel		CHECK	CHECK	CHECK

UNIT CLEANING

1. WATER FILTER REPLACE:

1. Disconnect the unit from the electricity.
2. Closet the inlet water faucet.
3. Close the faucet before the filter.
4. Remove the old cartridge and replace it with a new one.
5. Open all the closed faucets.
6. Connect the unit to the electricity.

2. WATER CIRCUIT CLEANING:

1. Disconnect the unit from the electricity.
2. Closet the inlet water faucet.
3. Open the drainage faucet (only on machines less than the 5 tons) to drain the water tank completely. Use a container to collect the water.
4. Close the drainage faucet.
5. We recommend using the cleaning product Calklin. Prepare a solution with ***50% phosphoric acid*** and distilled water. ***Do not use hydrochloric acid***. The mixture is more effective if the water is between 35ºC and 40ºC. Pour the mix slowly in the water tank (previously remove the cover).
6. Before connecting the unit, the cold production must be disable. To do so, access the electric box from the evaporator and disconnect the cable connected to the #6 terminal.
7. Open the inlet water faucet and connect the unit. Let the solution flow for 20 minutes.
8. After that, open the drainage faucet, or empty the water bin. By doing so the solution will be diluting, with the water pump on and the inlet water faucet open.
9. After 10 minutes, stop the unit and close the inlet water faucet. Wait until the whole unit is completely drained.
10. Once the unit is drained, close the drainage faucet and open the inlet water faucet.
11. Before connection the unit, please reconnect the cold production. To do so access the electric box again and connect the cable to the terminal #6.
12. Connect the unit to the electricity. Produce ice for 5 minutes.

    CAUTION: Discard th eice produced during this time.

13. After this time the unit can be used normally.

3. EVAPORATOR INTERIOR CLEANING:

1. Switch off the machine, turn off the water.

2. Remove the evaporator cover to clean all metal components of the evaporator: water distributor, main shaft, cutter, cutter supports, lower cross, etc...as described in point 3.

3. Cleaning of all metal parts. Dirt and surface rust stains must be completely removed by rubbing with a non-abrasive cloth or similar, which does not scratch or damage the metal surfaces of the walls and supports using soapy water, phosphoric acid in a proportion between 20 and 50% or a specific product for steel.

   Dirt and surface rust must be removed with sufficient frequency when they appear, preventing them from remaining on the metal components for long periods of time.

   In the case of saline environments, the frequency of cleaning should be increased, and maintenance should be carried out as soon as surface stains are observed and removed as soon as possible.

   IMPORTANT: In cases of prolonged lack of cleaning, dirt and surface rust in humid conditions could attack and damage the steel of the machine components, so it is recommended to remove them as soon as they appear. Both the cleaning and the possible deterioration of the machine due to lack of cleaning are not included in the machine manufacturer's guarantee.

4. Cleaning the water collection channel. Check the condition of the water channel, clean the water collection channel and the return inlet to the bucket. Carry out the same procedure as in point 3, using a plastic bristle brush in the event of stains, accumulation of dirt or surface rust, applying soapy water.

5. Rinse the unit with water. Open the drain valve to completely empty the basin (on models that have one, if not, remove the water by external means). If there are sediments, remove them with a cloth. Close it again.

6. Switch on the machine. Start making ice and remove the ice produced in the first 5 minutes.

4. DISINFECTANT:

1. Disconnect the unit from the electricity.
2. Closet the inlet water faucet.
3. Open the drainage faucet (only on machines less than the 5 tons) to drain the water tank completely. Use a container to collect the water.
4. Close the drainage faucet.
5. Prepare a solution with the disinfectant product. Pour the mix slowly in the water tank (previously remove the cover).
6. Before connecting the unit, the cold production must be disable. To do so, access the electric box from the evaporator and disconnect the cable connected to the #6 terminal.
7. Open the inlet water faucet and connect the unit. Let the solution flow for the time required by the product used.
8. After that, open the drainage faucet, or empty the water bin. By doing so the solution will be diluting, with the water pump on and the inlet water faucet open.
9. After 10 minutes, stop the unit and close the inlet water faucet. Wait until the wholeunit is completely drained.
10. Once the unit is drained, close the drainage faucet and open the inlet water faucet.
11. Before connection the unit, please reconnect the cold production. To do so access the electric box again and connect the cable to the terminal #6.
12. Connect the unit to the electricity. Produce ice for 5 minutes.

    CAUTION: Discard the ice produced during this time.

13. After this time the unit can be used normally.

Exterior cleaning

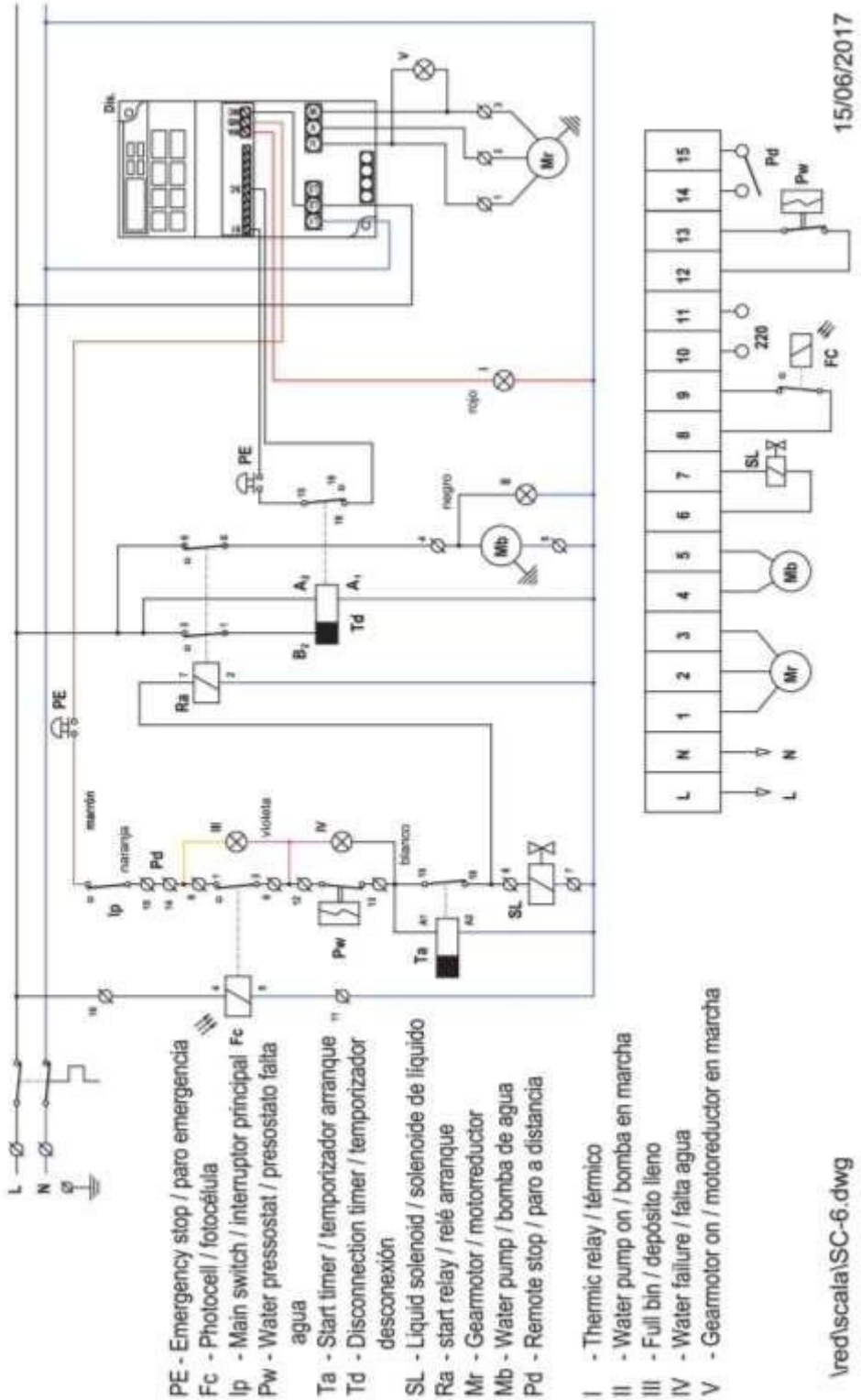
1. Disconnect the unitfrom electricity and close the water inlet.
2. Clean the evaporator using a kitchen cloth with degreasing detergent and warm water.
3. Clean the base using a kitchen cloth with degreasing detergent and warm water. If there are rust stains, apply 3 in 1 to finish cleaning.
4. Apply 3 in 1 on the surface to leave a protective film.

MAINTENANCE TABLE:

MAINTENANCE TASK	Dusty environment	Normal environment	Saline environment
Air condenser cleaning	6 months	12 months	6 months
Cleaning inside evaporator.	6 months	6 months	3 months
MAINTENANCE TASK	**Agua dura (mayor 400ppm)**	**Agua normal (menor 400ppm)**	**Brine**
Water filter replacement	6 months	12 months	6 months
Hydraulic circuit cleaning	6 months	12 months	Rinse with mains water after each prolonged shutdown (+12h).
Exterior cleaning	6 months	12 months	6 months
Sanitary cleaning	6 months	6 months	6 months
Evaporator interior cleaning.	3 months	6 months	3 months

Electrical Diagram

Scala Split



Split with signal relay

