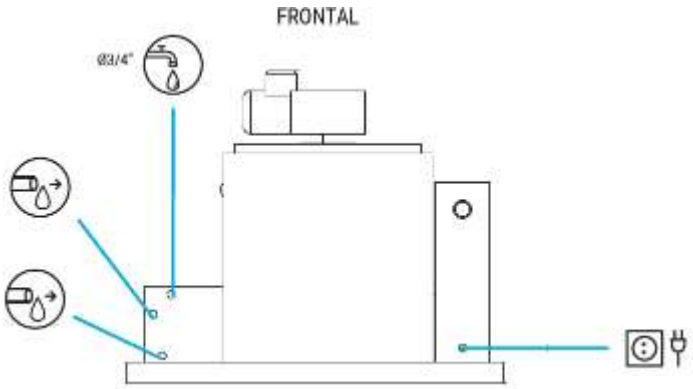
SCALA COMMISSIONING MANUAL

COMMISSIONING SCALA UNIT

STEP 1: UNIT POWER CHECK

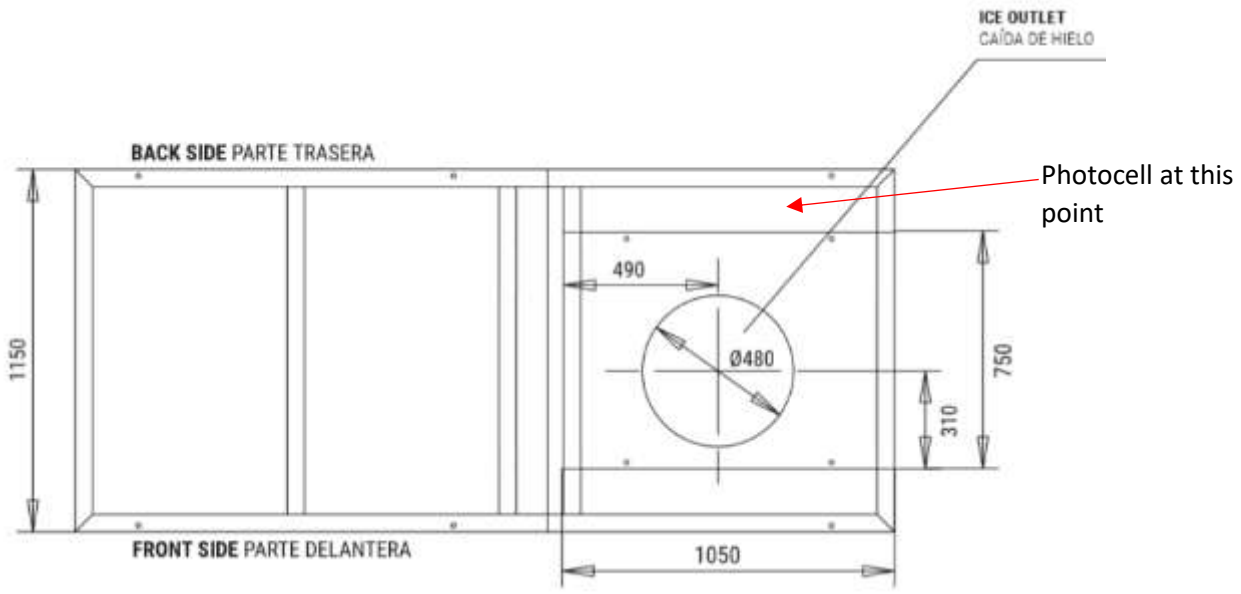
SCALA UNIT CHECK (GENERATOR):

- Check that the unit is provided with adequate power:
  - Split/remote unit: Schuko plug, single-phase. Check the voltage on the characteristics plate to see the section on the supply line and protections to be installed upstream.
  - Compact unit: 3F+N+TT three-phase power supply, direct to the condenser unit panel (check the power supply section with the electrical power indicated on the nameplate of the condensing unit).
- Check that the unit is level.
- Water supply: you need a tap close by for incoming water, ¾" or 2 of ¾", depending on the model. Check that it is connected to the water tank and under pressure (1 to 6 bar water pressure).
- Drainage: The unit is fitted with an overflow tube to prevent water from entering the evaporator drum in the event of a filling float failure. You need to have a drainage system nearby. The drainage pipes of the unit should not be siphoned at any time, the water should drain without problems. There is also a stopcock with a tap for emptying the water tank, 21 mm diameter or 38 mm diameter depending on the unit. Check that they are connected to the drainage system.



Water tank

- Check that the ice outlet of the evaporator is not blocked, that it is free.
- Check that the safety photocell located at the underside of the bench, near the evaporator outlet, is not blocked (the unit would not start due to a stop full of ice).



Ice maker underside, with ice outlet dimensions

Photocell at this point, underneath

- In remote or compact units, check that the air flow to the condenser is free so that it can condense correctly.
- On split units, check that there is cooling supply to the unit (pipes connected in liquid and suction and constant suction valve installed for supply (evaporation) temperatures below -25ºC).

STEP 2: START THE UNIT

- Open the access door to the electrical panel of the indoor unit (SCALA generator) to increase the temperature.

Ice maker panel

- Open condensing unit panel (compact / remote unit) and raise compressor and fan thermostats.
- On compact/remote units, turn the condensing unit on from the unit's panel.

Scala condenser unit panel 3000-5000-10000 remote/compact

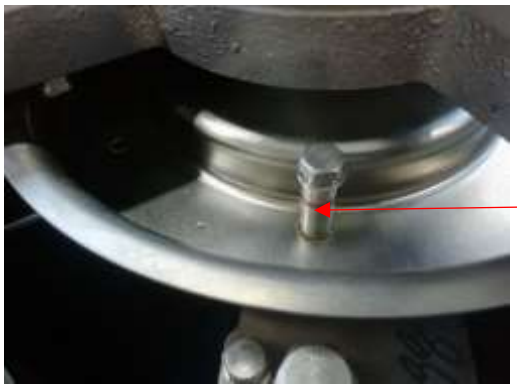
- Then start the inner unit, ice generator, by moving the black selector up to the right.

Generator unit panel

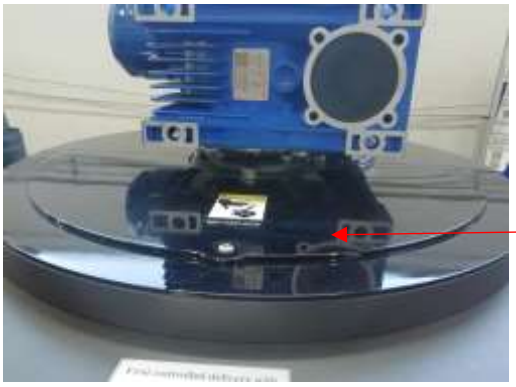
- The ice maker unit has a 3 minute start up time. After 3 minutes the water pump, the gear motor of the unit, starts and the liquid solenoid opens.
- When the liquid solenoid is opened, the condensing unit will engage by increasing the pressure (we work with pressures to start and stop the condensing unit).
- Check that the gear motor rotates counterclockwise (the units with a drive, new, already have that turn preset in the programming).

STEP 3: CONTROL UNIT

- In remote units, check the compressor consumptions, and regulate the condensing unit temperatures accordingly.
- In remote units, adjust the fan pressure switches, if necessary, so that the first one starts at over 18 and stops at 16 bar, and the second and third ones at two bars higher.
- The first thing is to regulate the water intake. The pump draws water from the tank, and pumps it into the water distributor on top of the unit. The unit has a shut-off valve in the water tank itself, without a handle. Although it is preset at the factory, as it is a ball, the opening can vary during transport.
- To regulate the water, you have to check the level with the screw with a red mark. The water must reach this level. If it goes above it, it can overflow, and if there is no water it will not spray the wall of the evaporator. To access, remove the screw from the top cover and you will be able to see the element moving with the tray.



- *Generator top tray, water mark screw*



Evaporator access cover / distribution tray

Water tray

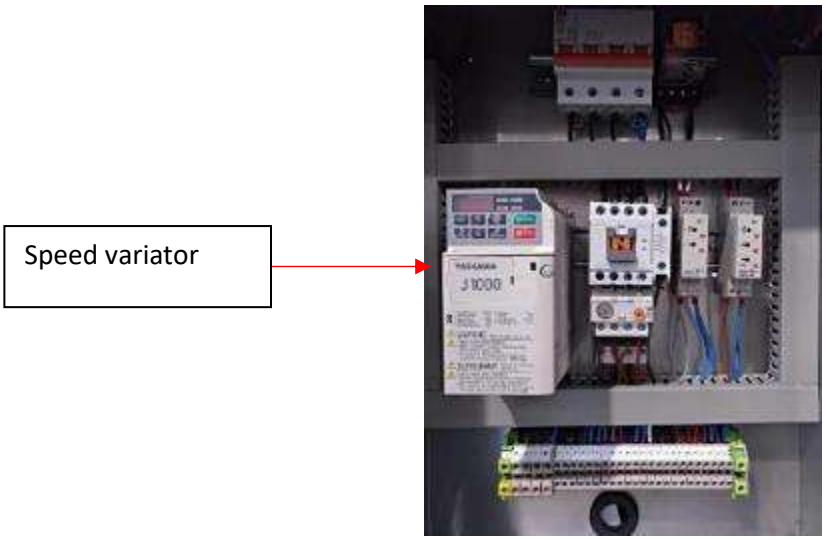
- After the first 5 minutes of operation, the expansion valves must be adjusted (in compact units it is preset at the factory). You start by opening or closing the lower one, upwards (the lower one more closed than the upper ones).

Ice generator expansion valves

- The evaporator must be filled with liquid, white. Each evaporator circuit, with its expansion valve, should be flooded, but with a small difference between the rings (circuits).

Evaporator, with difference between rings, after adjustment

- Once the unit is adjusted, leave it running.
- In split units, if the cold plant feeds the ice-generating unit with temperatures below -25ºC, it is necessary to install a constant suction valve to keep the evaporation above -25ºC (from -22ºC to -25ºC), thus avoiding problems in the evaporator. It must be adjusted with the unit running.
- The thickness of the ice flake can be modified, if necessary. The generator unit comes with a variable speed drive, which allows modifying the rotation frequency of the gear motor, allowing speeds below 50Hz (factory setting) to achieve thicknesses greater than 1.5mm, up to 3mm. Production loss is no more than 20% at a speed of about 30 Hz. We do not recommend going below 30Hz.



Scala panel

- If the water feeding the Scala ice generator is very soft, it may be necessary to install a salt dosage (3% salt) so that the flakes are not transparent and are somewhat larger. To do so, follow the instructions that exist on the subject.

SPLIT UNIT WIRING DIAGRAM