ASTRAL
Sel Clear

Code: 101 274

IMPORTANT

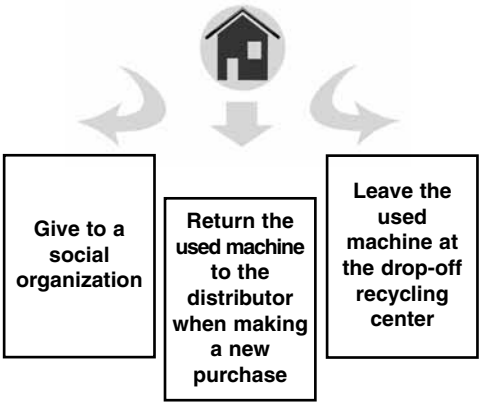
This machine should not be used by persons (including children) with reduced physical, sensory or mental abilities, nor by people who have no experience or knowledge of it, unless they benefited from supervision or prior instructions concerning the use of the device, by a person responsible for their safety (NF EN 60335-1/A1).

End-of-life of the machine

If you wish to replace or dispose of the machine, **do not discard it as household waste** nor put it in your local recycling containers.

On a new machine, this symbol means that the equipment must not be thrown out as trash and should be specifically collected in order to be re-used, recycled or valorised. If it contains substances that are potentially dangerous for the environment, these must be eliminated or neutralized. You can give the machine to a charitable or social organization which can repair it and put it back in circulation again. If you buy a new machine, you can leave the old one at the point of purchase or request that the delivery company take it back. This is known as a "one for one" return.

If not, bring the machine to a drop-off recycling center, if your locality has set up selective collection of these products.



CE

NF EN 60335-1/A1 and 60335-2-108

Note:
The EEC conformity declaration is established in keeping with directive 89/336/EEC concerning electromagnetic accounting, and the directive 73/23/EEC concerning safety requirements for electrical materials.

"This machine complies with the standard: NF C 15.100 Edition 2002"
Characteristics:
MODEL SALT.E4
230 V - 50/60 Hz - IP45

⏩ E4 salt chlorinators only replace the slow chlorination that is generally done by the weekly addition of slow-acting chlorine tablets.

⏩ When starting up a pool or rectifying green or murky water, it may be necessary to complete the work of the machine by carrying out shock or breakpoint chlorination.

The electrolysis phenomenon of the chlorinator is based on salt molecule regeneration. Therefore it is preferable for your pool to be uncovered regularly during the season. (Especially for pools under shelter or opaque cover.)

A cell that functions in cold water can create an electric overload which accelerates wear on the electrodes. If the temperature drops below 15°C, turn the chlorinator off.

When winterizing the pool, turn off the machine. When starting up again for the season, check that all parameters (pH, salt, stabilizer) are correct.

Compatibility:
Make sure that the materials used (pool and surrounding area) are compatible with the use of salt and chlorinated water.

1 - Recommendations

Please comply with the following values for your chlorinator to work properly:

Salt concentration:
Recommended 4,0 g/l
Minimum 3.5 g/l

pH :
Recommended from de 7.0 à 7,4

TAC :
Recommended between 12 et 18 ° F

Stabilizer:
Recommended: 20 à 50 g/m³

Water temperature:
Do not operate when water is colder than 15°C.

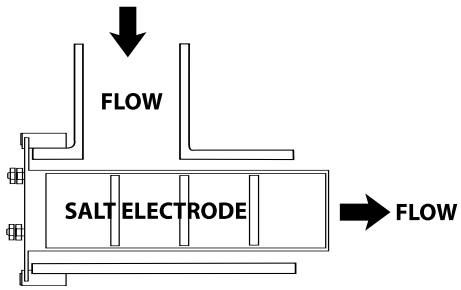
Chlorine concentration:
Between 0.5 and 2.5 ppm

Connection:
220 volts - 50/60 Hz servo-controlled by the filtration pump.

2 - Installing the chamber

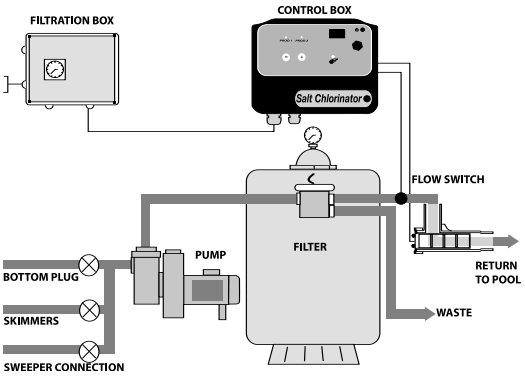
This chamber adapts to all standard backflow piping.
Please do not position the chamber with the electrode head upwards.

When installing the chamber, always position the electrode parallel to the direction of flow. Plan for enough space on the dismantling side of the chamber to remove the electrode.



For the elecrolysis chamber to work correctly, it is recommended that the heating system be placed within 20 m. of the pool (40 m. of back / forth piping).

For longer distances, we recommend that you integrate a relay pump upstream from the heating system.



3 - Electrical connections

A - Installing the unit

Fix the unit to a wall of the plant room using the installation holes at each corner and the screws and plugs provided.

PRECAUTIONARY MEASURE:
We strongly recommend that the unit be installed in a sheltered place.

B - Unit power supply

Connection: 230 volts - 50/60 Hz
P. max: 70 W

The system works with the filtration pump. It is imperative that it run at the same time as the filtration.

Therefore it must be hooked up to the filtration pump connectors in the filtration box.

The guarantee will not cover units that are not servo-controlled by the filtration system.

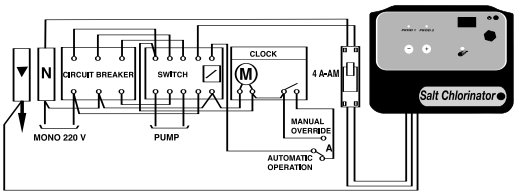
C - Salt electrode power supply

Connect the cable intended for this use. Correctly tighten the nuts. A poorly-tightened connection can result in overheating.

Beyond the length of cable supplied with the machine, the cable section should be sufficient, and the connections should be protected and adapted to the cable section used.

The electrical connection must be carried out by a qualified electrician and must be compliant with the standard: NF C 15-100 (publication 2002).

D - Example of an electrical set-up:



4 - Commissioning

4.1 - Stabilizer

The use of a stabilizer, 10 g/m³ to 20 g/m³ in water, is strongly recommended in very hot weather to avoid chlorine evaporation and to lessen corrosion.

Maximum concentration: 50 g/m³

PLEASE NOTE:
Too LOW a concentration of stabilizer will double chlorine consumption in your pool! On the other hand, too HIGH a concentration of stabilizer will cancel out the chlorine effect!

If the pool treatment is done by means of chlorine tablets, measure the concentration of stabilizer present in the water. If the concentration exceeds 50 g/m³, replenish part of the water before adding the salt.

4.2 - Salt

Pour the salt directly into the pool, while the filtration is running. **Do not turn on** the chlorinator until the salt has been completely dissolved
Dosage:
4 grams per liter or 400 kg for 100 m³.
Verification of the dosage is done with the test strips provided.

4.3 - Switching on

- Turn on the chlorinator switch: "On" (Marche) and adjust to maximum production, leaving the filtration 24/24 hrs until the desired chlorine concentration is reached (minimum 0.5 ppm).

- Turn the filtration onto automatic mode, and regularly check the chlorine concentration.

- If necessary, adjust the setting if the desired chlorine concentration is exceeded.

The electrode will automatically be powered-up after a time-lag period.
After switching on the box, wait 2 minutes before adjusting the flow using: ⊕ ou ⊖ .

- Factory settings:

model 30 - 4 A - maximum
model 55 - 7 A - maximum
model 95 - 10 A - maximum

5 - Flow switch

We recommend installing a flow switch in the following cases:

- filtration pump situated above the water level (risk of loss of priming)

- chamber installed in a by-pass set-up.

Operating principle:
If the flow is accidentally stopped, or when there is counter-flushing and, in all cases, when water flow speed is less than 2.9 m³/h, the detector will cut off chlorine production.

Installation:
(see diagram paragraph 2)
Install the pipe saddle (50 or 63, to be specified) which should be placed before the electrolysis chamber and preferably positioned on horizontal piping.
The arrow that is on the detector head should be positioned toward the direction of flow. Connect to the chlorinator unit.

NEVER INSTALL THE DETECTOR ON DOWNWARD FLOW

A poorly-positioned detector will hinder chlorine production and error "99" will blink on and off.

6 - Grounding the installation

We recommend installing a ground wire to harness any residual electrical current in the water.

Installation of the ground wire
On the pipe saddle before the chamber.

Install the ground wire in compliance with the current standards of the country of installation.

7 - Tips for proper use

The sodium hypochlorite produced by your chlorinator helps avoid problems linked to the use of chemical chlorine (purchasing, storage, daily supervision, etc).

This process has its production capacity directly linked to the filtration time of your pool. It is therefore important to verify that the setting is sufficient in order to ensure proper water treatment.

7.1 - Digital display

In the factory, the chlorinator is pre-programmed for maximum electric current depending on the electrode model.

4	A	for chlorinator model	30
7	A	for chlorinator model	55
10	A	for chlorinator model	95

When the machine runs, the current will be adapted to production needs, water temperature and frequency of pool use, as described under the **4.3** Switching “on" heading.
If the machine does not reach the indicated electric current set-point, it could be due to the following problems:

a - very-low water temperature
b - low salt concentration
c - problem of connection (poor contact or improperly-tightened lugs)
d - power-supply section of the electrode cable is too small for the distance covered (the longer the cable, the larger the section must be, to compensate for loss)

7.2 - Chlorine and pH testing methods

Testing should be done at approximately the same time and in the same place (about once a week). The chlorine produced by your chlorinator is highly volatile and readings can vary in relation to different parameters (UV, frequency of pool use, organic matter, etc).
The chlorine concentration should be between 0.5 and 2.5 ppm. The pH should be between 7.0 and 7.4.

7.3 - Shock (breakpoint) chlorination

During the season, when the pool has been used intensely or the water temperature has been unusual, if your pool water turns murky, it is best to do a shock or breakpoint chlorination (see recommendations for shock chlorination dosage).

7.4 - Indoor pools, pools under shelter or with covers

Pool water that is not exposed to UVs can result in overly-high chlorine levels that are therefore corrosive.

For this it is best to considerably decrease chlorinator production when the pool is covered.

If your automatic cover has a relay on it, it is suggested that this be connected to the special terminal “volet”.
An indicator signals detection of a closed cover and the machine automatically reduces programmed production by 50%.

7.5 - Adjusting the reverse polarity time

Your chlorinator was factory-set for a change of polarity every 4 hours. It is possible to modify this reverse polarity time from 1 to 99 hours, depending on the water hardness (TH):

As an indication:
> 50° TH ≅ 3 hours
between 50°TH & 20°TH ≅ 4 to 20 hours
< 20°TH ≅ 20 to 99 hours

If the electrode scales-up, you should shorten the reverse polarity time.

Adjusting: Switch the machine off. Then press on ⊕ while turning the machine on and continue pressing the key for 10 seconds until the screen displays the change of polarity time in hours.

Release the key and use ⊕ or ⊖ to change it. The new value will be saved within 10 seconds.

7.6 - Cycle of the machine

Between each change of polarity the box displays "00" and the ⊕ and ⊖ indicators light up for about 2 minutes.
After each reverse polarity time, the unit indicates its maximum current during 2 minutes then returns to the previous adjustement.

7.7 - Verification and maintenance

Error signals:

If there is a problem with electric current, voltage or internal temperature, the machine no longer displays anything.
Only the indicator stays lit.
The machine will start up again automatically.

⏩ Adding salt:
Check the salt concentration. If the concentration is less than 4g/l add salt, using the following equation: **Q = (4 - T) x V**

Q = quantity of Kg of salt to add
4 = correct salt concentration
T = concentration recorded in the pool
V = pool volume in m³.

Always stop the chlorinator before adding any product whatsoever. Wait until the salt has dissolved before turning the chlorinator back on again.
The salt concentration should be checked at least twice a year.

⏩ Winterization:
If pool filtration is maintained during the winter months, we recommend turning off the chlorinator when the water temperature drops below 15°C, removing the electrode from the chamber, and replacing it with the cap that has been provided for this purpose.

⏩ Tips for proper use of the electrode:
The electrode is a wear-sensitive part, and its life span depends on the following factors:

- **Salt concentration:**

Never run the chlorinator with a salt concentration less than 3.5 g/l.

- **Water temperature and winterization:**

Turn off the machine whenever the water temperature drops to 15°C or below.

- Adjustments:

Never leave the machine on maximum production unless there is a chlorine shortage. An "economical" setting would be about 75% of the maximum current value printed on the side label.

- Reverse polarity:

Your machine is adjustable (see heading **7.5**).
The electrode's life span depends on the number of changes of polarity performed. For example, it will wear out less quickly if change of polarity occurs every 6 hours, and more rapidly if it occurs every 2 hours.

⏩ Scale-covered or furred-up electrode:
The electrode should be clean-looking, without any scaling.

⏩ Scale-covered or furred-up electrode: (cont.)
If this should be the case, de-scale the electrode by dipping it in a solution of 80% water and 20% hydrochloric acid. Next, check the reasons for this furring-up:
*the pH is too high
*the salt concentration is too low
*the setting for change of polarity is too long
*the electrode is worn out

⏩ Compatibility:
The sterilizing agent (sodium hypochlorite) produced by the machine is compatible with most pool water treatment products except for PHMB polymers. In any case, when adding products, turn off the chlorinator until the products are completely dissolved.

⏩ Washing the filter/draining the pool:
Turn the machine off when handling the filter valve: washing, rinsing, draining, except if a flow switch is installed.

⏩ Flow switch error:
In the case of a flow shortage, the machine indicator will blink and display "99".

8 - Guarantee

The chlorinator is guaranteed two years for parts and manpower. This guarantee covers all defects recorded during this period that are not imputed to improper use by the user. The manufacturer is sole judge of what must be done to remedy the reported claim.
We would in no way be responsible for maintaining the pool water during the time it might take to repair the machine (addition of chemical products, etc.).
If need be, the user must accept a verification of user's installation by our after-sales agent who will carry out all tests necessary to prove the existence of the reported defect.

Electrode : 2-year guarantee.

This guarantee does not cover failures resulting from: negligence, misuse, non-compliant installation, modification, dismantling, corrosion, maintenance or winterization not done or poorly-done, malicious intent, flooding, lightening, damage due to dropping or impacts.
Any back/forth shipping of material for overhaul or repair will be done, postage-paid, by the user.
Without prior notification the manufacturer reserves the right to modify the form, design or aspect of its products.
With regards to the user, this guarantee does not hinder the application of legal guarantees covering hidden defects such as those defined in Articles1641 and others of the French civil code of law. Neither does it exonerate from the legal conformity guarantee established in the French consumer code of law, ordinance 2005136 of Feb. 17, 2005.

9 - What to do in case of problem?

Any electrical manipulations must be done by a qualified electrician. Only full-fledged professionals are authorized to open the machine.

Problem: **⏩The chlorinator stays off.**
Solution : *Check the connection on the filtration box.*

Problem: **⏩The ⏻ light stays on, but "prod 1" and "prod 2" are off.**

Solution : *The machine is in safety mode: electrode current, voltage or internal temperature are too high. The system will move automatically into prod 1 and prod 2 once these safety items are OK.*

Problem: **⏩The machine does not reach the electric current set-point**

Solution : *Check:*
1- The salt concentration (> 3.5 g/l),
2- The water temperature (> 15°C),
3- The condition of the electrode: it must be clean and scale-free. If the problem persists, this means that your electrode is wearing out and needs to be replaced.

Problem: **⏩Low chlorination in spite of the proper running of the chlorinator**

Solution : *1- Check the pH (between 6.9 and 7.4) and the stabilizer concentration (between 20 and 50 g/m3),*
2- Increase the electric current for production,
3- Increase the filtration time.

Problem: **⏩No chlorine although the chlorinator is running**

Solution : *1- Presence of hydrogen peroxide: This product cancels the chlorine reading for approximately 3 weeks,*
2- Saturated or imbalanced water: carry out shock chlorination, re-balance the TA (12 to 18° F) and, if necessary, replenish part of the pool water.