

13.2-CLAIM PROCESS 索赔程序

Summary of Emaux Claim Process in 3 steps:

1. Claim: Customer contacts Emaux salesperson and provides completed details of the claim which includes:
 - a. Information about the failed product such as the part number(s) and serial number(s).
 - b. Description of the complaint/failure.
 - c. Pictures
2. Once the complaint is received, the product quality incident will then be reviewed by Emaux's Quality Department following the "Emaux Warranty Policy".
3. Conclusion: After the investigation is completed, Emaux will inform the distributor accordingly.

Emaux索赔程序可以概况为以下3步:

1. 索赔: 客户与Emaux销售商联系, 提供全部索赔细节, 包括:
 - a. 有故障的产品信息, 例如零件号和序列号。
 - b. 投诉/故障描述。
 - c. 图片
2. 收到投诉之后, 产品质量突发事件会受到Emaux质量部按照“Emaux保修条款”的审查。
3. 结论: 调查完成之后, Emaux会相应通知分销商。

13.3-WARRANTY OBLIGATION 保修义务

Emaux warrants any of above items from workmanship and/or material(s).

Should a defect become evident during the term of warranty, Emaux will, at its option, repair or replace such item or part at its own cost and expense. Customer will need to follow the warranty claim procedures from Emaux in order to obtain the benefit on this warranty.

Emaux is not, however, responsible under this warranty for any cost of shipping or transportation of the equipment or parts thereof "to" or "from" our technical operations. Emaux is not able to liable for any loss of time, inconvenience, incidental expenses such as labor cost, phone calls, legal cost or material cost incurred in connection with the replacement or removal of the equipment, or any other consequential or incidental damage on persons or assets. Emaux will be not responsible for any business profit loss operation stop due to the non-conformity product equipment. No indemnity or damages can be claimed on any account whatever.

Emaux会从工艺和/或材料方面对上述项目进行保修。

保修期间, 如果出现明显瑕疵, Emaux会根据自己的选择进行修理或更换, 并自行承担费用。消费者需要遵循

Emaux的保修索赔程序, 才能获得保修利益。

但Emaux在此保修条款下, 不负责设备或零件往返我们的技术操作时产生的运输费用。Emaux不负责时间损失、不便、或在联系设备替换或去除方面所导致的杂费, 例如劳务费、电话费、法律服务费或材料费, 也不负责其他对于人或财产的间接或偶然发生的损坏。Emaux不负责商业利润方面的损失或不符合的产品设备所导致的运营停止。无论怎样, 都不能要求损害赔偿。

13.4-WARRANTY OR REPRESENTATIONS BY OTHERS 其他人做出的保修或陈述

No dealer or other person has authority to make any warranty or representation concerning Emaux or its products.

Accordingly, Emaux is not responsible for any such warranty or representation.

经销商或其他人都无权对Emaux或其产品做出保修或陈述。

相应的, Emaux也不对这类保修或陈述负责。



SSCone®

盐水氯化器用户手册 SALT CHLORINATOR USER MANUAL

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13.0-WARRANTY POLICY 保修条款

Emaux manufactures its products with the highest standard of workmanship, using the best materials available through state of the art process. Emaux proudly warrants its products as follows:

Emaux用最高工艺水准制造产品，在整个工艺阶段使用最好的材料。Emaux很骄傲地为其产品提供如下担保：

EXTENDED WARRANTY FOR SPECIFIC PRODUCTS (OFFERED FROM DATE OF INVOICE) 为某些产品提供的延展保修期 (始于发票开出日期)			
Product 产品		Warranty Period 保修期	
Filters & Filter Systems	过滤器和过滤系统	2 years	2年
Pumps	泵	1 year	1年
Underwater Lights	水下灯	1 year (bulbs 90 days)	1年(灯泡90天)
Ladders	梯子	1 year	1年
Control devices	控制装置	1 year	1年
Heat Pumps & Heat Exchangers	加热泵和热交换器	1 year	1年
Salt Chlorinators & UV Systems	盐氯化器和UV系统	1 year (2 years for cell material)	1年(电解盒材料2年)
Pool Fittings	泳池装置	1 year	1年
Cleaning Equipment & All others	清洁设备和其他	1 year	1年

13.1-EXCEPTIONS THAT MAY RESULT IN DENIAL OF A WARRANTY CLAIM 不在保修范围内的例外

1. Damage caused by careless handling, improper repackaging or shipping.
2. Damage due to misapplication, misuse, abuse or failure to operate and install the equipment as specified in this manual.
3. Damage caused by a misuse, abuse or failure to operate and install the equipment out of the scope of a professional level demanded in similar equipment or installation type.
4. Damage due to unauthorized product modifications or failure to use Emaux original replacement parts.
5. Damaged caused by negligence or failure to properly maintain products as specified in this manual.
6. Damage caused by failure to maintain water chemistry in conformity with the standards of the swimming pool industry for any length of time.
7. Damage caused by water freezing inside the product.
8. Accident damage, fire or other circumstances outside the control of Emaux.
9. Items had been repaired or altered in any way by any person that is not authorized by Emaux.
10. Wear & tear parts.

1. 由于处理不小心、重新包装不争取或运输不正确导致的损坏。
2. 滥用、误用或未按手册中所说明的事项操作及安装设备所致的损坏。
3. 滥用、误用或由类似设备或安装类型所要求的专业范围之外的人员操作和安装设备引起的损坏。
4. 由于未经批准的产品改进或由于未使用Emaux原始替换部件导致的损坏。
5. 由于疏忽或未按此手册的规定正确维修产品所造成的损坏。
6. 由于在任何时间未能使水中的化学物质符合泳池工业标准而导致的损坏。
7. 由于产品内部结冰而导致的损坏。
8. 事故损坏、火灾或其他Emaux无法控制的情况所导致的损坏。
9. 未经Emaux授权，由任何人用任何方法修理或修改的项目。
10. 磨损部件

12.0-TROUBLESHOOTING 故障处理

PROBLEM 问题	SOLUTION 解决方案
OPERATION STATUS light signals:	
1. Solid red light: Cell fault. No cell connected. 固定的红灯：电解盒故障。没连电解盒。	Check the cell plates. Verify the electrical cables between the cell and the Control panel. Check the salinity of the water. 检查电解盒板。核实电解盒和控制部件之间的电缆。检查水的盐度。
2. Fast flashing red light: High amount of salt in the water. 快速闪动的红灯：水里盐分过高。	Renew the water of the pool with fresh water. Check again the salinity of the pool 将泳池中的水替换为新水。 将泳池中的水替换为新水。
3. Slow flashing red light: Low amount of salt in the water. 慢速闪动的红灯：水里盐分过低。	Add more salt into the water. 再次检查池水的盐度。往水中加入更多的盐。
4. Solid blue light: High heat sink temperature. 固定的蓝色灯：散热片温度高	The system will automatically reduce the output power until the temperature remains constant. Install the Control panel in a ventilated area, away from heat sources and any equipment which produce heat. 系统会自动降低输出功率，直到温度保持常量。将控制部件安装在通风区域，远离热源和任何能够产生热量的设备。
5. Fast flashing blue light: pH probe fault. No pH probe connected. 快速闪动的蓝灯：pH探针故障。没连pH探针。	Check pH connections. Calibrate the pH probe. Replace the pH probe if it cannot be calibrated. 检查pH连接。校准pH探针。如果pH探针不能校准，则予以更换。 检查加药泵的管道、底阀和注入点。
6. Slow flashing blue light: pH dosing pump error or no acid solution. 慢速闪动的蓝灯：pH加药泵故障或没有酸性溶液。	Check dosing pump pipes, foot valve and injection point. If necessary, clean the components with fresh water. Check the volume of acid solution in the chemical storage tank. Prepare an acid solution more concentrated. 如有必要，用清水清洁组件。检查化学储罐里的酸性溶液的容积。 准备更加浓缩的酸性溶液。
Levels of Free Chlorine are very low 自由氯的水平非常低。	Check the output power range. Check the flow rate in the cell electrolysis. Verify the water parameters of the pool, and especially the pH (range 7.2 - 7.6), and cyanuric acid (stabilizer) which must be between 30-50 gr/m ³ . Increase the operation schedule. 检查输出功率范围。检查电解盒里的流速。验证泳池中的水的参数，尤其是pH（7.2-7.6之间）以及氰尿酸（稳定剂）30-50 gr/m ³ 之间。增加运行进度。
pH dosing pump is not working pH加药泵未工作。	Verify is the pH of the water is between 6-9 pH. Check if the control panel is in Auto Mode. Dosing pump will work only if the control panel is in mode Auto. Dosing pump works in cycles of 5 minutes every 20 minutes to avoid over-dosage in the water. 验证水的pH值处于6-9之间。检查控制部件是否为自动模式。只有当控制部件为自动模式时，加药泵才工作。加药泵以每20分钟工作5分钟的周期运转。这样可以避免在水中加药过多。
pH CONTROLLER does not show the correct values pH控制器不显示正确的数值	The cable of the pH probe is not connected properly. Check the cable connections or replace the cable. Calibrate the probe and if the problem persists, replace it for a new one. pH探针的电缆没连好。检查电缆连接或更换电缆。校准探针，如果问题依然存在，更换一个新的。

1.0-IMPORTANT SAFETY INSTRUCTIONS 重要安全提示

IMPORTANT: The instruction manual you are holding includes essential information on the safety measures to be implemented for installation and start-up. Therefore, the installer as well as the user must read the instructions before beginning installation and start-up. Keep this manual for future reference.

重要提示：您目前所持有的本指导手册包括在安装和启动方面的安全措施的重要信息。因此，安装者和使用者必须在开始安装和启动前阅读此说明。请保留此手册，以便日后参考。

When using this electrical equipment, basic safety measures listed below should be followed:

- * Disconnect all AC power during installation.
- * Warning - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- * A green colored terminal marked "Earth Ground" is located inside the wiring compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying the equipment.
- * To reduce the risk of electric shock, connect the local common bonding grid in the area of the swimming pool or spa to these terminals with an insulated or bare copper conductor.
- * All field installed metal components such as rails, ladders, drains, or other similar hardware within 3 meters of the pool or spa shall be bonded to the equipment grounding bus with copper conductors.

当使用这一电气设备时，需遵循下列基本安全措施：

- * 在安装时断开所有交流电。
- * 警告——为减少伤害风险，不允许儿童使用此产品，除非他们时刻受到密切监视。
- * 接线箱内部安装有一个标有“地”字样的绿色终端。为减少触电风险，此终端必须与供电服务板所提供的接地装置相连，使用连续的铜线，其尺寸等同于为设备提供电力的电路导体的尺寸。
- * 为减少触电风险，请将泳池或按摩池区域的局部共建网格与这些终端相连，使用绝缘或裸露的铜导体。
- * 泳池或按摩池三米范围内所有安装金属部件的区域，例如围栏、梯子、排水沟或其他类似硬件，都应通过铜导体连接到设备接地母线。

2.0-CONTENTS OF THE PACKAGING 包装内容

The following component should be found inside the box:

包装箱内可以找到以下部件：

SSCone® Control unit	SSCone® 控制部件	Buffer solution pH 10.0	缓冲溶液 pH 10.0
Electrolytic cell	电解盒	Buffer solution pH 4.0	缓冲溶液 pH 4.0
1.5" /2" universal union	1.5" / 2" 管接头	Ø3x200 Screw knife	Ø3X200螺丝刀
Cell cable	电解盒电缆	Dosing fitting kit	加药配件盒
pH probe and Cover	pH 探针及探头套	Dosing pump rotator tube	加药泵转子管

3.0-TECHNICAL FEATURES 技术数据

Standard working voltage	标准工作电压	220-240 V AC – 50/60 Hz
Maximum chlorine production	最大产氯量	50 g/h
Volume of the pool up to	最大泳池体积	150 m ³
Water salinity required	必需的水盐分	2.5 – 6 g/l
Water temperature	水温	15°C - 40°C (50°F – 104°F)
Electrodes	电极	Self-Cleaning coated titanium plates 自洁涂层钛板
Range of pH measurements	pH值测量范围	6 – 9 pH
pH precision	pH精确度	± 0.2 pH
Dosing pump flow rate	加药泵流速	1.5 l/h
Dosing pump working pressure	加药泵工作压力	1.5 bar

4.0-INTRODUCTION 简介

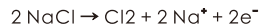
The Emaux SSCone® is an automatic chlorine generation system composed by two main components: an electrolytic cell and a control unit.

Emaux SSCone®是一个自动生成氯的系统，由两部分组成：电解盒和控制部件。

4.1-THE ELECTROLYTIC CELL 电解盒

- * The electrolytic cell is composed by a number of titanium plates. The control unit regulates the electrical current that passes through the titanium plates. One extreme of the plates will be the anode and the other will be the cathode.
- * Adding a certain concentration of salt in the water, this passes through the plates and thanks to the electrical current, the Hypochlorous acid is produced.
- * The following chemical reactions are produced in the plates of the electrolytic cell:
- * 电解盒由一系列钛板组成。控制部件调节通过钛板的电流。钛板的一极是阳极，另一极是阴极。
- * 在水中加入一定浓度的盐，盐分通过钛板，并且因为电流的缘故，会产生次氯酸。
- * 电解盒板上可生成下列化学反应式：

Positive pole (anode): $2 H_2O \rightarrow O_2 + 4 H^+ + 4 e^-$
正极(阳极)



Negative pole (cathode): $2 H_2O + 2 e^- \rightarrow H_2 + OH^-$
负极(阴极)

Final chemical reaction: $Cl_2 + OH^- \rightarrow HClO + Cl^-$
最终化学反应式：

4. Use Ø3X200 Phillips screwdriver to remove the 14 round cross-head screws to remove the control panel. The control panel and PCB board are bonded together and cannot be replaced separately.
用Ø3X200十字螺丝刀拆出按键面板的14颗圆头十字机丝，将按键面板往外推就可以拆出此面板，按键面板连电子板是粘接的，需要一起更换，面板或电子板不能单独更换。



Ø3X200 Phillips Screwdriver
Ø3X200十字螺丝刀大概

11.0-WINTERIZING 冬化

When a period with low operation, such as in winter, the procedures are as following:

a) Minimum working operation:

- * Activate WINTER MODE. The production of chlorine will drop the half.
- * If an automatic pool cover is installed and connected to the SSC one® unit, the system will detect it and the production will drop the half again. So from the initial chlorine production, now is reduced 75%.
- * Reduce the schedule time at minimum working period according to the aims of the pool in winter season.
- * Check periodically the complete installation, the storage acid level and the electrolysis cell.

b) No working period:

If the installation is not working during a long period of time, the following recommendations have to be carried out:

- * Switch off the SSC one® unit and disconnect it from the power supply.
- * Close the valves from the by-pass and remove the water from the cell.
- * Clean the cell plates with fresh water and dry them with a soft cloth. Check if scaling has been formed. If scaling, proceed with the cleaning of the cell plates (Chapter 9.1).
- * Remove the pH probe and keep it submerged in a conservation solution at pH 4 in an indoor place.
- * Remove the suction pipe of the dosing pump from the acid solution. Clean the dosing pipes from the acid by dosing manually fresh water.
- * Clean the foot valve and the injection valve of the dosing pump with fresh water.

低运行期间，例如冬天，程序如下：

a) 最小工作运行

- * 激活WINTER MODE（冬季模式）。产氯量会下降一半。
- * 如果安装了自动池盖，并且该池盖与SSCone®部件相连，系统就会监测的到，产氯量就会再次下降一半。因此，就从最初的产氯量，下降了75%。
- * 按照冬季泳池的目的不同，将规定时间降到最小工作周期。
- * 定期检查完整的装置、储酸水平及电解盒。

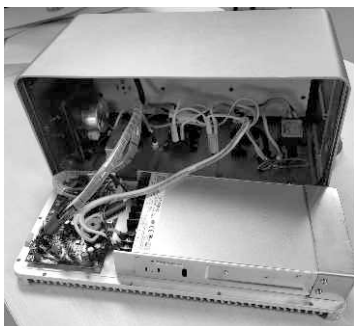
b) 非工作期间

如果装置在很长一段时间内不工作，须执行下列建议：

- * 关闭SSCone®部件，将其与电源断开。关闭旁路的阀门，清楚电解盒中的水。
- * 用清水清洁电解盒板，用软布擦干净。检查是否有水垢形成。
- * 如果有，继续进行电解盒板的清洁（参见10.1章）。
- * 除去pH探针，将其浸入置于室内的pH 4的保存溶液中。
- * 从酸性溶液中取下加药泵的吸入管。通过手工加入清水，从酸性溶液中清洁加药管。
- * 用清水清洁加药泵的底阀和注入阀。

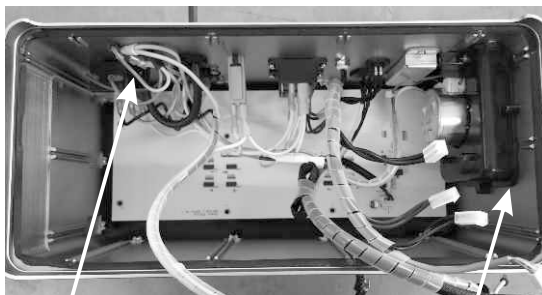
2. After release the aluminum rear plate, do not move it for a long distance. Because the rear plate has cable connection, as shown in the figure below. At this time, you can check the circuit of the SSCone salt machine and repair the external plug connector.

拆下铝板后盖后，因后盖有电子设备连接，切勿长距离移动，如下图摆放即可，此时可以检查SSCone盐机的电路，维修外接插接头



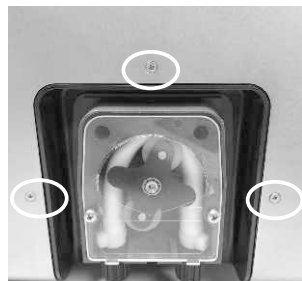
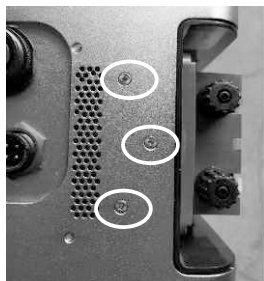
3. Untighten the 3 sides and 3 bottom screws to remove dosing pump, and two screws to remove filter as show in figure.

拆下铝板后盖后，在拆下壳体内部的加药泵及滤波器。加药泵拆底部3颗侧边3颗，一共6颗平头十字螺丝。滤波器拆内侧2颗螺丝，如图。



Filter
滤波器

Remove Dosing Pump
加药泵



- * The operation requires a certain concentration of salt (2500 ppm), low enough that it normally will not be tasted. The SSCone[®] automatically sanitizes your pool by converting the salt into Hypochlorous acid which kills bacteria and algae in the pool through a process called electrolysis.
- * Because chlorine will revert back to sodium chloride after killing the bacteria, the above reactions will continuously recycle virtually eliminating the need to add sanitizing chemicals to your pool. The only time you may need to add more salt to the pool is when water is replenished due to backwashing, draining, or splashing.

- * 此操作需要一定浓度的盐分（2500 ppm），这个浓度很低，通常都尝不出来。SSCone[®]通过将盐分转化为次氯酸的方式对泳池进行自动净化，这样会杀灭泳池中的细菌和水藻，通过一种叫做电解的过程。
- * 由于在杀灭细菌之后氯会转化回氯化钠，上述反应实际上会持续不断地循环，不需要再往泳池中注入消毒化学品。只有当水因反流、排干或泼溅被重新注满的时候，你才需要往泳池中加入更多的盐分。

4.2-THE CONTROL UNIT 控制部件

- * The control unit is provided with a microprocessor driven control system to regulate the percentage of chlorine production, the operating time and the pH value.

- * The Emaux SSCone[®] has an automatic cleaning system that avoids scale formation on the electrodes. Moreover, Emaux SSC one[®] includes a built-in pH peristaltic pump and pH sensor.

- * 控制部件与微处理器驱动控制系统同时提供，以调节氯的生成百分比、操作时间和pH值。

- * Emaux SSCone[®] 有一个自动清洁系统，避免在电极上形成结垢。另外，Emaux SSC one[®] 包括内置的pH蠕动泵和pH传感器。

5.0-SAFETY WARNING AND RECOMMENDATIONS 安全警告及建议

- * The equipment should be assembled and handled by truly qualified people.
- * Current electrical and accident prevention regulations should be followed.
- * Under no circumstances will the manufacturer be held responsible for the assembly, installation or start-up, nor any handling or fitting of components unless they are carried out on its premises. The Emaux SSCone[®] operates at 220/240V AC, 50/60 Hz. Do not attempt to alter the system to operate at a different voltage.
- * Check all the electrical connectors are well tightened to avoid false contacts and their consequent overheating.
- * Before installing or replacing any component, disconnect the equipment from the mains, and use exclusively spare parts supplied by Emaux.
- * 3The control unit must be installed in places with sufficient ventilation. Fan openings should be kept free of any element that could obstruct them. The equipment should not be installed near flammable materials.
- * This equipment should never be installed in places susceptible to flooding.
- * It is important to reduce chlorine production to the minimum while the pool is covered. Otherwise, an excess of chlorine could degrade the pool materials.

- * 设备的组装和处置须由有资格的人员进行。
- * 当前的电器事故预防规定必须遵循。
- * 无论在何种情况下，制造商都不会为组装、安装或启动负责，也不会为部件的处置或安装负责，除非是在它们的前提下进行的。The Emaux SSCone[®]在220/240V AC, 50/60 Hz环境下运行。不要试图改变系统，使其在不同的电压下运行。
- * 检查所有的电气连接，确保其已安牢，以避免虚假联系所导致的过热。
- * 在安装或更换任何部件前，切断设备的主电源，并使用由Emaux供给的多余零部件。
- * 控制部件的安装地点必须保证通风充足。风扇口必须远离任何会妨碍其运行的元素。设备的安装地点必须远离可燃物质。
- * 请勿将设备安装在易于发洪水的地方。
- * 当泳池被覆盖时，将产氯量降到最低是非常重要的，否则，多余的氯会降低泳池物质。

6.0-WATER CHEMISTRY 水化学

The following table shows the recommended levels of the chemical parameters required for a proper quality of water in the pool by using Emaux SSCone®

Test your water periodically and ensure the levels are between the recommended range.

下列表格列出的是通过使用Emaux SSCone®池水质量所必需的化学参数的推荐水平。定期检测水进行检测，确保其水平位于推荐范围之内。

Salt Level	盐分水平	2500 – 4000 ppm
Free Chlorine	游离氯	1.0 – 3.0 ppm
pH		7.2 – 7.6
Cyanuric Acid (stabilizer)	氰尿酸 (稳定剂)	30 – 50 ppm
Total Alkalinity	总碱度	80 – 120 ppm
Calcium Hardness	钙的硬度	200 – 400 ppm
Metals	金属	0 ppm

6.1-SALT LEVEL 盐分水平

- * The amount of salt required when using Emaux SSCone® is between 2500 and 4000 ppm, with 3000 ppm as a general recommendation. This means to add directly in the pool water 3 Kg/m³.
- * Low concentration of salt (below 2000 ppm) will cause premature cell failure.
- * High concentration of salt (above 6000 ppm) may cause electro-oxidation and corrosion damage to the Stainless Steel pool fixtures.
- * Salt required according to the volume of the pool:
- * 使用Emaux SSCone®时，必需的盐分量为2500至4000 ppm之间，一般推荐量为3000 ppm。也就是说，直接加入池水中的量为3 Kg/m³
- * 盐分浓度过低（2500 ppm以下）会导致细胞过早失效。
- * 盐分浓度过高（超过6000 ppm）会导致电氧化，并对不锈钢泳池固定装置产生腐蚀侵害。
- * 根据泳池体积不同，所必需的盐分量如下：

Pool volume (m ³) 泳池体积(m ³)	Salt (kg) 盐分 (kg)
10	40
15	60
20	80
25	100
30	120
35	140
40	160
50	200
60	240
70	280
80	320
90	360
100	400
110	440
120	480
150	600

Pool volume (Gallon) 泳池容量(加仑)	Salt (Pound) 盐分 (磅)
2,642	88
3,963	132
5,283	176
6,604	220
7,925	264
9,246	308
10,567	352
13,209	440
15,850	528
18,492	616
21,134	704
23,775	792
26,417	880
29,059	968
31,700	1,056
39,626	1,320

NOTE: Table based on 4000 ppm of salt per m³ of water.
注：此表以每立方米水含4000 ppm盐分为基础。

10.2-MAINTENANCE OF THE pH PROBE pH探针维修

1. The pH probe must be calibrated at least once per month. (For calibration procedure, see chapter 8.3.3).
2. Ensure that the membrane placed at the end of the pH probe remains always wet.
3. For cleaning the probe, use fresh water and a soft cloth.
4. If the probe is not going to be used for a long time, keep it submerged in a conservation solution at pH 4.
5. The pH probe is a consumable and it needs to be replaced periodically.

1. pH 探针每月至少校准一次（校准程序参见 9.3.3章）。
2. 确保置于pH 探针末端的隔膜保持湿润。
3. 清洁探针时，使用清水和软布。
4. 如果探针长时间不用，将其浸入pH 4的保护溶液中。
5. pH 探针是消耗品，需要定期更换。

10.3-MAINTENANCE OF THE PERISTALTIC DOSING PUMP 蠕动型加药泵的维修

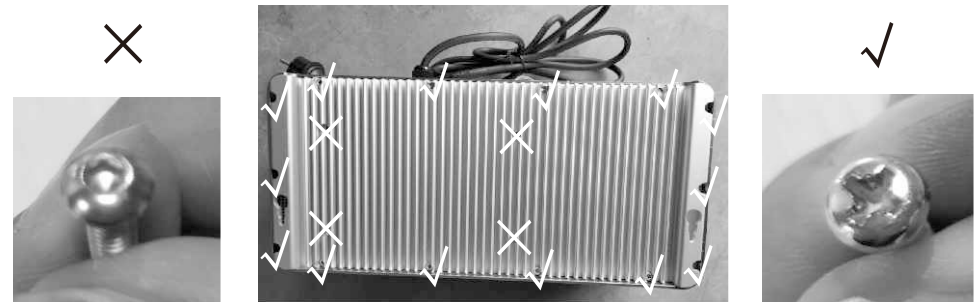
- * Check periodically if the dosing pipes are leaking or have enough flexibility.
- * Check the foot valve inside the storage acid tank and clean it if necessary.
- * Check the injection valve in the circulation pipe and clean it if necessary.

- * 定期检查加药管是否有泄漏，是否有足够的韧度。
- * 检查储酸罐内的底阀，必要时予以清洁。
- * 检查循环水管道内的注入阀门，必要时予以清洁。

10.4-DISASSEMBLY AND ASSEMBLY OF ALUMINUM REAR PLATE, CONTROL PANEL AND DOSING PUMP 铝板后盖、按键面板及加药泵的拆装

1. Disassembly the SSCone salt machine: first remove the aluminum rear plate, only remove the 14 round head Phillips screws. Do not remove the 4 round head hex screws in the middle. If they are removed, the electronic equipment inside will be loose.

拆SSCone盐机：先将SSCone盐机铝板后盖拆出，注意将外围14颗圆头十字螺丝拆出即可，切勿拆中间4颗圆头内六角螺丝，如果拆此4颗螺丝，里面的电子设备将会松动。



3. Check regularly the hardness in the pool water and regulate the Reverse Polarity System indicating if water is hard, medium or soft.

由于电极倒转系统——此系统可以避免在电解盒板上的水垢堆积，确保电解盒拥有较长使用寿命的第一个动作保证化学参数始终保持在建议范围之内，尤其是盐量、pH 和水的硬度。

1. 让水中的盐分使用高于3000 ppm，以避免电解盒板的过早劣化。下列公式确定了由于盐分过低而应加入池

水中的盐的含量： $Q = (4-S) \times V$

在此公式中，Q = 加入的盐量（公斤）

4 = 正确的盐的浓度（常量）

S = 测量到的池水中的盐的含量

V = 泳池体积（立方米）

2. 将pH 值保持在7.2至7.6之间。检查并清洗电解盒板，如果系统在pH 值高于7.6的情况下工作了很长一段时间的话。
3. 定期检查池水的硬度，调节电极倒转系统——此系统可以表明水的硬、中度或软。

CELL ELECTROLYSIS CLEANING PROCEDURE

If scale has been formed in the plates of the cell, the first cleaning procedure is the following:

1. Turn off power to the SSC one® unit before removing the electrolytic cell.
2. Once removed, look inside the cell and inspect for scale formation (light colored crusty or flaky deposits) on the plates and for any debris which has passed through the filter and caught on the plates.
3. Try to remove the scale using a plastic or wood tool (do NOT use metal as this will scratch the coating off the plates).

If the scale still remains in the plates, proceed the cell cleaning with acid solution as below:

- a) Dilute hydrochloric acid with water: one part of acid in 10 parts of water.

ATTENTION:

- * Always add acid into the water, NEVER add water into the acid. This prevents splashing of the acid when the water hits it.
- * Wear rubber gloves and appropriate eye protection.

- b) Submerge the cell plates in the solution no more than 10 minutes. Plates plastic housing can be submerged in the solution, but avoid any contact with the cell connections and wires.
- c) Rinse the cell with a high pressure hose. If any deposits are still visible, repeat soaking and rinsing.
- d) If scaling persists, replace the cell for a new one.

电解盒清洁程序

如果电解盒板上出现水垢堆积，第一个清洁程序如下：

1. 在移除电解盒之前，关闭连接SSC one® 部件的电源。
2. 一旦被移除，须看一看电解盒的里面，检查板面上的水垢堆积情况（浅色的硬壳或片状物），检查是否有残渣穿过过滤器，落在电解盒板表面上。
3. 用塑料或木头工具清楚水垢（请勿使用金属工具，因为其会刮蹭板面涂层）。

如果水垢仍然留在板面上，用以下酸性溶液清洁电解盒：

- a) 用水稀释盐酸：10份水，1份酸。

注意：

- * 是往水里加酸，千万不能往酸里加水。这是为了避免由于水击中酸液而导致酸液泼溅。
- * 请佩戴橡胶手套和合适的护眼装置。

b) 将电解盒板浸入溶液中不超过10分钟。电解盒板的塑料外壳可以浸入溶液中，但须避免电解盒连接和电线的浸入。

- c) 用高压胶皮管对电解盒进行漂洗。如果仍能看到沉淀物，请重复浸入和漂洗过程。

- d) 如果水垢沉积仍然存在，换一个新电解盒。

6.2-TYPE OF SALT 盐分分类

The most common salt used in swimming pools with Salt Electrolysis is Sodium Chlorine (NaCl) that is 99% pure. DO NOT use the following types of salts:

- * rock salt.
- * salt with more than 1% yellow prussiate of soda.
- * Salt with more than 1% of anti-caking additives.
- * Iodized salt.

泳池中盐电解最常用的盐是纯度99%的氯化钠（NaCl）。请勿使用以下类型的盐：

- * 石盐；
- * 黄血盐钠含量超过1%的盐；
- * 防结块添加剂含量超过1%的盐；
- * 加碘盐

6.3-ADDITION AND REMOVING SALT IN THE SWIMMING POOL WATER 加入或去除池水中的盐

- * Before adding the salt into the pool, turn the filtration pump on and the manifold valve of the filter in position "Filtration".
- * Add the salt directly into the pool or ballast tank and do not allow the salt to sit in a pile on the bottom of the pool.
- * Keep the filtration system running for 24 hours using the Main Drain or vacuum suction nozzle as a main suction line.
- * The only way to remove the salt in the pool water is to partially drain the pool and refill with fresh water.

- * 在将盐加入泳池中前，打开过滤泵，将过滤阀设置在“过滤”位置。
- * 将盐直接加到泳池或平衡槽中，不要让盐在池底堆积。
- * 使用总排水管或真空吸嘴作为主吸入管路，让过滤系统运转24小时。
- * 将盐从池水中去除的唯一方法是部分排干池水，并重新注入新水。

7.0-INSTALLATION 安装

7.1-CONTROL PANEL (Fig 1): 控制部件（图1）

The Emaux SSC one® unit is contained in a rain tight enclosure that is suitable for outdoor mounting (IPX4 waterproof). However, the following points must be taken into consideration for a correct installation of the Emaux SSC one® unit:

1. Install the Control Panel using the template paper sheet provided with the package in a minimum distance of 3.5 meters (11.5 ft.) from the swimming pool, 1.5 meters (5 ft.) from the ground, within 2 meters (6.5 ft.) from the protected outlet, and within 4.5 meters (15 ft.) from where the cell will be installed, in a ventilated area and leaving enough free space of min. 50 cm (20") in each side for servicing.
2. DO NOT mount the Control Panel in a direct sun light.
3. The Control Panel must be installed far away from the chemical storage, especially from acid because it can corrode the electronics inside the unit.
4. It must be kept away from heat sources and any equipment which produce heat.
5. Plug-in power supply into a suitable weatherproof outlet socket with circuit breaker.
6. Before fixing the Control Panel, make sure that the power cable and cell cable also reach the Control Panel.

The Emaux SS Cone® 组件装在一个雨密外壳中，适宜户外组装（IPX4等级）。然而，为正确安装Emaux SS Cone® 组件，必须注意下列几点：

1. 使用包装中所提供的模板纸安装控制部件，其安装地点必须距离泳池最少3.5米（11.5 ft.）、距离地面最少1.5米（5 ft.）、位于电器外罩2米（6.5 ft.）范围之内，位于所安装的舱室4.5米（15 ft.）范围之内，且必须通风条件良好，并在每一侧留出最少50厘米（20"）的足够空间，以便提供服务。

- 控制部件的安装需避免太阳直射。
- 控制部件的安装需远离化学物质，尤其是酸，因此其会腐蚀部件中的电子器件。
- 部件必须远离热源及任何能产生热量的设备。
- 通过断路器将电源插入合适的防水插座。
- 在固定控制部件前，确保电源电缆和电解盒电缆可以到达控制部件。

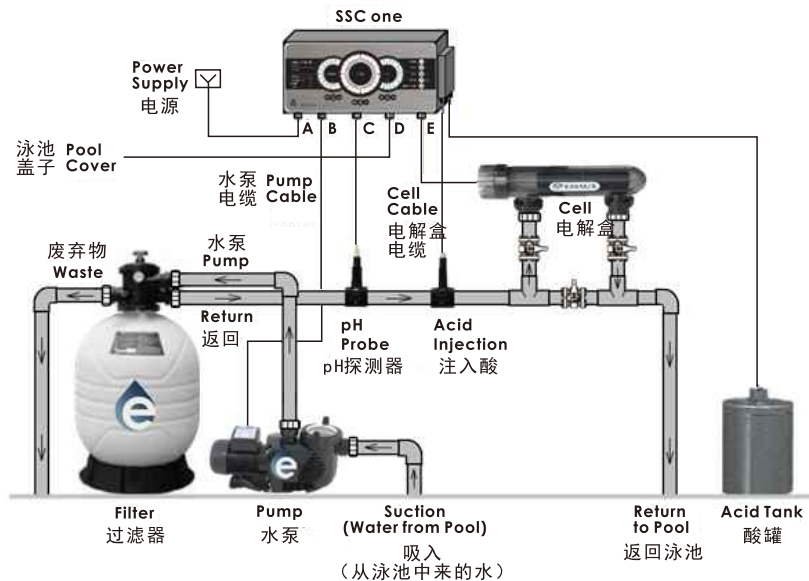


Fig. 1

7.2-CELL (Fig 2): 电解盒 (图2)

The following points must be noted for a proper installation of the cell:

1. Install the cell always after all the other pool equipment (pump, filter, heating system...).
2. It is very important to install the cell always higher than the top of the filter. The cell installed in a lower level may keep water storage in the cell and make a wrong message of the flow switch. The presence of water in the cell does not mean to get a circulation flow rate.
3. The cell must be always installed in horizontal, with the connections placed face downward and the flow sensor in the top of the cell, so that the flow sensor only will give out a signal when the water is full inside the cell housing.
4. Ensure the water flow rate of the system is enough to fill completely the cell electrolysis. If low flow rate, the flow sensor will not detect water on the top of the cell housing and will switch off the chlorine production. On the other hand, if the flow rate is too high, we recommend to install a bypass with a valve to regulate the flow rate in the cell.

为正确地安装电解盒，需要注意以下几点：

1. 在安装了所有其他的泳池设备之后（泵，过滤器，加热系统……）再安装电解盒。
2. 将电解盒安装在高于过滤器顶部的位置，这一点很重要。若电解盒安装位置过低，水就会储存在电解盒中，从而产生错误的流量开关信息。电解盒中出现水并不意味着循环流量。
3. 电解盒的安装必须保持水平，连接线面朝下，流量传感器在电解盒的顶部，这样流量传感器才能只在电解盒外壳水满时发出信号。
4. 确保系统的水流量足够注满电解盒。如果流量过低，流量传感器就不能探测到电解盒外壳顶端的水，就会切断氯的产生。另一方面，如果流量过高，我们建议通过阀门安装一个旁路，以调节电解盒中的流量。

蠕动型加药泵：

- * 当盐氯化器生成的次氯酸(HClO)为水消毒时，pH值有上升的趋势。
 - * 因此，往水中注入酸通常都是强制性的。
 - * Emaux SSC one® 部件包括一个蠕动型加药泵，可以将酸注入电路。
- 加药泵可以用自动或手动模式工作：

1) 自动模式

蠕动型加药泵将会根据探针读出的pH值开启或关闭，并与已设定的设置点相比较。

药剂每五分钟为一个周期供给，跟着有20分钟的储备时间。这样的周期可以避免池水中的药剂过量。

如果20分钟后，当前的pH值达不到设置点，则加药泵会重新再开启5分钟，或直到pH值达到设置点。

如果5天之后，PH读数没有变化，说明加药泵有问题，或酸性溶液有问题，或是池子容量过大，需要手动加药。

The dosing pump will NOT work in AUTO Mode in the following conditions:

1. The current pH reaches the Stablished Set Point.
2. If after 5 cycles the current pH does not change the value.
3. The flow sensor in the cell does not detect flow rate.
4. The filtration pump is not working.

2) Mode MANUAL:

Push and hold the button SET for 3 second from the pH Controller to switch on the dosing pump manually.

When finish holding the button, the dosing pump will stop dosing.

This mode can help the system to reach the Set Point faster, but it is always recommended to allow a certain period of time between dosages in order to let the acid mix with the pool water.

No special conditions are required for running the dosing pump in Manual Mode.

下列情况下，加药泵不会在自动模式下工作：

1. 当前的pH值达到了已设定的设置点。
2. 5个周期后，当前的pH未改变数值。
3. 电解盒中的流量传感器未监测到流速。
4. 过滤泵不工作。

2) 手动模式

长按pH控制面板内的SET键3秒后以手动开启投药泵。

松开此按钮后，加药泵将停止加药。

此模式可以帮助系统更快地达到设置点，但通常情况下，我们会建议在两次加药之间允许间隔一段时间，使得酸可以与池水混合。

手动模式运行加药泵不需要特殊条件。

10.0-MAINTENANCE 维修

10.1-MAINTENANCE OF THE CELL ELECTROLYSIS 电解盒维修

Due to the Reverse Polarity System that avoids scale in the plates of the cell, the first action to consider for ensuring a long cell lifetime is to keep the chemical parameters always in the recommended range, especially the amount of salt, the pH and the hardness.

1. Keep the salinity of the water always higher than 2500 ppm in order to avoid premature deterioration of the cell plates.

The following formula determinates the amount of salt to be added in the pool due to low salinity:

$$Q = (4-S) \times V$$

Where

Q = quantity of salt (kg) to be added.

4 = correct salt content (constant).

S = Measured salt content in the pool

V = Volume of the pool in m³.

2. Keep the pH between 7.2 and 7.6. Check and clean the cell plates if the system has been working for a prolonged period with a pH value over 7.6.

Control procedure:

- * Pressing the buttons + or – the Set Point will increase or decrease respectively.
- * Remember the recommended range of pH value in a swimming pool is between 7.2 and 7.6.
- * In order to regulate the pH correctly, the Total Alkalinity of the pool water must be maintained in the range 80 – 120 ppm. Use a pool water test kit to check the Total Alkalinity and manually adjust if necessary.

控制程序:

- * 按 + 或 - 按钮加大或减小设置点。
- * 务必记住，泳池中的pH值的建议范围在7.2至7.6之间。
- * 为正确调节pH，池水的总碱度必须保持在 80 - 120 ppm 的范围内。使用池水检测工具包检查总碱度，必要的话手动调整。

pH CALIBRATION:

We recommend to calibrate the pH probe at least once per month during the operating season.

Calibration Procedure:

1. Extract the pH probe from the holder and clean it with fresh water.
2. Switch off the system. Green LED light in POWER is slowly flashing.
3. Press and hold the button + and – from the pH Controller in the same time. The whole values of pH will turn green light.
4. Put the pH probe to the first buffer solution (pH 4). Green lights will count down until the end.
5. Clean the pH probe again with fresh water.
6. Press and hold again the button + and – from the pH Controller. This time, the whole values of pH will turn red light.
7. Put the pH probe to the second buffer solution (pH 10). Red lights will count down, and turn off when finish.
8. The complete range of lights (red and green) will indicate the calibration has been done successfully.

pH值校准

在运行期间，我们建议每月至少对pH探针校准一次。

校准程序:

1. 将pH探针从支托上取下，用新鲜水清洁。
2. 关闭系统，POWER (功率)上的绿色LED灯慢慢闪烁。
3. 同时点按pH控制器的+，- 按钮。整个的pH值将变为绿色。
4. 将pH探针放入第一个缓冲溶液 (pH 4)。绿色灯会倒数到零，直至结束。
5. 再次用新鲜的水清洁pH探针。
6. 同时点按pH控制器的+，- 按钮。这一次，整个的pH值都会变成红灯。
7. 将pH探针放入第二个缓冲溶液 (pH 10)。红色灯会倒数到零，结束时将会关闭。
8. 灯 (红色和绿色) 的整个范围会表示校准已经成功。

PERISTALTIC DOSING PUMP:

- * While hypochlorous acid (HClO) generated by the Salt Chlorinator is disinfecting the water, the pH tends to increase.
- * For this reason, the injection of acid into the water is always compulsory.
- * Emaux SSC one® unit includes a peristaltic dosing pump that will inject the acid into the circuit.

The dosing pump can work in Auto or Manual Mode:

1) Mode AUTO:

The peristaltic dosing pump will be switched on or off according to the pH value read by the probe and compared with the established Set Point.

The dosage is carried out in cycles of 5 minutes dosing by 20 minutes of stand-by. These cycles avoid over-dosage of acid in the pool.

If after 20 minutes the current pH does not reach the Set Point, the dosing pump will switch on again for 5 minutes more or until the pH reaches the set point.

If the PH level doesn't change in 5 days, it can be dosing pump problem, dosing acid concentration is wrong or the pool water volume is too much need manual dosing.

7.3-ELECTRICAL INSTALLATION 电器安装

Proceed with the interconnections between the cell and the Control Panel according to the following drawing (Fig 2).

- A. Connect the Control Panel to the general control box of the installation (A), so that the pump and Emaux SSC one® unit are turned on and off simultaneously.
- B. Connect the filtration pump to the plug 230V (B).
- C. Connect the pH sensor into the connector (C). pH sensor includes 1.5-meter cable (10-meter length upon request).
- D. Connect the automatic pool cover to the connect (D).
- E. Connect the Electrolysis cell to the connector (E).

Caution: Do not cut or modify the supplied cables.

继续按照下图 (图2) 连接电解盒和控制部件。

- A. 将Emaux SSC one®控制部件直接与220-240V AC总输电线连接，或直接与通用电气箱连接。
- B. 连接230V过滤器插头。
- C. 将pH探头连到连接器内。pH探头包括1.5米的电缆 (如需要，可提供10米长的电缆)
- D. 自动池盖连接器，如果供应的话 (可选)。
- E. 如果供应SSC系列的熔盐氯化炉 (可选) 的话，将电解盒与连接器相连。

警告：请勿切割或修改所供应的电缆。

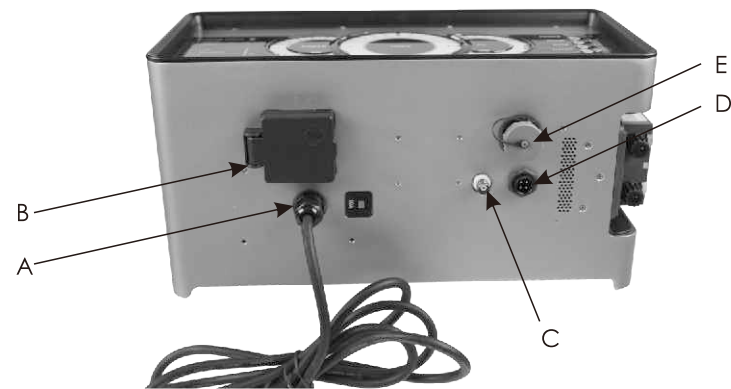


Fig. 2

7.4-INSTALLATION OF THE pH SENSOR 安装pH传感器

Install the pH saddle in a pipe with minimum D. 50 mm and before the electrolysis cell. The pH injector saddle must be installed always after the cell electrolysis for its protection.

Both must be always installed in a horizontal position.

- a) Saddle for the pH sensor (Fig. 3): Before installation, drill a hole in the top of the pipe with size approx. 12 mm. and make sure the sensor can pass through. Install the saddle so that the hole in the pipe coincides with the sensor connection of the saddle. (Saddle needs to be purchased separately)
- b) Saddle for the pH injector (Fig. 4): Before installation, drill a hole in the pipe after the electrolysis cell with size approx. 9 mm. Install a socket with connection 3/8" female GAS thread connection in the saddle. The injection valve will be connected to the socket.

将pH鞍座安装到直径最小为50毫米的管道上，在电解盒之前。出于保护的的目的，pH 喷嘴鞍座必须安装在电解盒之后。这两个东西必须保持水平安装。

a) pH传感器鞍座 (图3)：安装之前，在管道顶端钻一个尺寸大约12毫米的孔，确保传感器可以穿过。安装鞍座，以便管道上的孔与鞍座的传感器连接相符合。(客户自己购买鞍座)

b) pH 注射器的鞍座 (图4)：在安装前，在电解盒后的管道上钻一个尺寸大约9毫米的孔。用3/8” 的母螺纹连接将一个插座安装在鞍座里。喷射阀将与此插座相连。

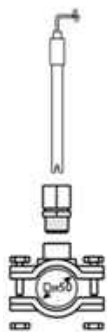


Fig. 3

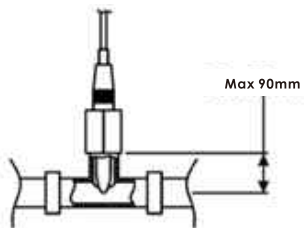


Fig. 4

7.5.Pool Cover installation 泳池盖连接安装

It locate at the bottom of unit.

The 2 pins pool cover connector function is detect the status of pool cover is ON or OFF by open or short.

它位于单元的底部。

2针泳池盖连接器功能通过打开或短路检测泳池盖的状态为ON或OFF。

Caution: Don't apply any voltage to these pins.

注意：请勿对这些引脚施加任何电压。



Pool Cover Connector

Assemble the pool cover connector with a two wires cable outer diameter between 4.5mm to 6.5mm for low voltage application is ok. Colour of the wire is don't care.

将泳池盖连接器与两根电缆外径组装在4.5mm至6.5mm之间，以便低压应用即可。不在乎电线的颜色。



BOOSTING CHLORINE

Sometimes, after a higher load of bathers, heavy rain, pool water renewal, etc. the chlorine concentration dropped down considerably.

In this case, by using BOOST button, the Emaux SSC one® unit will generate chlorine at 100% of output power during 24 hours or until the same button is pressed again by the user.

How to proceed:

1. Before Boosting chlorine, it is recommended to check the chemical parameters, paying special attention to the pH, which might be between 7.2 and 7.4.
2. Long press the BOOST button for 3 seconds to start in the POWER Controller, the green LED lights will change to red and BOOST signal will turn green. Consequently, the filtration pump will switch on and the output power will be slowly increasing until 100% of production.
3. The time schedule will change to red color and will operate for 24 hours non-stop, unless the operation is cancelled by pressing the button BOOST again.
4. In the BOOST mode of operation with a 24-hour countdown, from 24, 23, 22, . . . , every half an hour after running, extinguish a light. When the 24-hour countdown is completed, all red lights are extinguished. BOOST mode will automatically exit. And enter the normal working mode.
5. During Boosting chlorine, it is recommended to check the chlorine concentration more often because it may increase fast in a short period of time.
6. After boosting chlorine, the unit will keep working with the same initial schedule.



氯的增加

有时，在游泳者负荷的增加、大雨、池水换新等情况之后，氯的浓度会大幅下降。在这种情况下，通过点按BOOST（增加）按钮，Emaux SSCone® 将在24小时内以100%的输出功率生成氯，或者直到使用者再次点按此按钮。

如何处理：

1. 在增加率之前，建议检查化学参数，尤其注意pH值，必须在 7.2 和7.4之间。
2. 在功率控制面板下长按下BOOST键3秒启动，绿色的LED灯将变为红色，BOOST（增加）信号将变绿。接着，过滤泵会开启，输出功率会慢慢增加到产量的100%。
3. 在24小时倒计时的超频工作模式下，从24, 23, 22, . . . , 每运行过半个小时，灭掉一颗灯。当24小时倒计时完成后，全部红灯灭掉。自动退出BOOST模式。进入正常工作模式。
4. 时间表将变为红色，会不间断地运行24小时，除非通过再次点按BOOST（增加）按钮来取消运行。
5. 在增加氯期间，建议更加频繁地检查氯的浓度，因此它会在很短时间快速内快速增长。
6. 增加氯之后，部件会按照之前的程序安排持续工作。

9.3.3 pH CONTROLLER pH 控制器

pH Controller regulates the pH value of the swimming pool thanks to the pH Probe readings and the control of a peristaltic dosing pump.

Emaux SSC one® unit will read the signal from the pH probe, will compare it with the desired pH value, and will switch on/off the dosing pump accordingly.

There are two different pH signals in the controller:

由于有了pH 探针读数 and 蠕动型加药泵的控制，pH控制器得以调节泳池的pH值。Emaux SSCone® 组件会从pH 探针读到信号，然后和期望的pH值相比较，相应开启/关闭加药泵。

控制器内有两个不同的pH信号：

GREEN LIGHT 绿灯	RED LIGHT 红灯
Desired pH Value (Set point). 期望的pH (设定点)	Current pH value read by the pH probe. 从pH探针中读到的



c) Setting the current time:

- * Press and hold the SET button for 3 seconds.
- * The red LED will appear in the position 24.
- * Press + or - to select the current hour. Each position represents 15 minutes, and alternates red and green LED light color. Press SET button to confirm the current time. (The actual display is red, with a 30-minute lighting interval.)

设定时间表的程序如下:

a) 设定第一个工作时间:

- 点按SET (设置) 按钮: 会出现一个绿色LED灯, 表示第一个工作时间所开始的那个小时。
- 按 + 或 - 选择开始的那个小时。
- 点按SET (设置) 按钮确认开始时间: 操作小时的范围将被点亮, 最后一个小时会闪动。
- 按 + 或 - 选择工作时间的最后一个小时。点按SET (设置) 加以确认。

b) 设置第二个工作时间:

- 第二个工作时间的设定遵循相同的程序。
- 以上两个时间段只允许其中一个时间段跨过0点时间, 作连续运行。同时, 设置时间段时, 请避免两个时间段重叠。
- 最后, 两个不同的工作时间会在计时器上以绿灯点亮。

c) 设置当前时间:

- 点按SET (设置) 按钮并保持3秒钟。
- 红色LED灯将出现在24的位置。
- 按 + 或 - 选择当前的小时。每个位置代表15分钟, 红色和绿色LED灯交替闪现。点按SET (设置) 按钮确认当前时间。(实际显示为红色, 30分钟的点亮区间)

9.3.2 POWER CONTROLLER 功率控制器

Power controller regulates the chlorine generated by the cell and is introduced into the pool water.

Two different options are available:

STANDARD CHLORINE PRODUCTION

The higher is the % of power output, the higher amount of chlorine will produce the system up to 50 gr/hr.

The range of % output power is lighting in red, from 0% until the desired value.

For setting the desired output power, press the buttons + or - to increase or decrease the value respectively. The new value will be flashing until the system reaches to it.



功率控制器用以调节电解盒产生的、导入池水中的氯。

有以下两种不同选项:

标准产氯

功率输出的%越高, 系统的产氯量越高, 直至最大的电解盒性能。

功率输出% 的范围用红色灯表示, 从 0%到期望值。

设置功率输出期望值时, 按 + 或 - 的按钮分别增加或减少数值。新数值会一直闪动, 直到系统达到此值。

The system will NOT generate chlorine in the following situations:

- The Indicator AUTO is not switched on.
- The current time is out of the schedules.
- The flow sensor from the cell does not detect flow rate.
- SSC one® unit is switched off.

下列情况下, 系统将不产氯:

- AUTO (自动) 的指示灯没打开。
- 当前时间超出程序安排。
- 电解盒内的水流传感器未监测到流量。
- SSCone® 部件处于关闭状态。

Connect to a SSP Single gang 2 position (NO/NC contact) key switch for current pool cover remote key switch.

连接到SSP Single gang 2位置 (NO / NC触点) 键开关, 用于当前池盖遥控钥匙开关。



Connection to a pool cover key switch

Keep the pool control wiring. This wiring is not use to control the pool cover, it is to detect the pool cover status.

连接到泳池盖钥匙开关

保持泳池控制线路。这种布线不用于控制泳池盖, 它是检测泳池盖的状态。



Connect the 2 wires cable to the NC of the key switch box to detect the "ON" status of the pool cover. Reverse it when it is not true.

将2线电缆连接到钥匙开关盒的NC, 以检测泳池盖的 "ON" 状态。当它不成立时反转它。

8.0-START-UP 启动

For starting-up the installation with the Emaux SSC one® unit, the following points have to be taken into consideration:

1. Check if the filter is completely clean, and ensure that the swimming pool and the installation do not contain any metals dissolved or algae.
2. Ensure that the heating equipment (if any) is suitable for use in salt water.
3. Ensure that the chemical parameters of the pool are maintained within the following values:
 - a. pH must be in the range 7.2-7.6
 - b. Total alkalinity must be in the range 80-120 ppm
 - c. Although the salinity range is between 2500 - 4000 ppm, for starting up the installation is recommended a minimum salt level of 3000 ppm by adding 3 Kg/m³ of water. As mentioned before, always use common salt (NaCl), without additives like iodides, and never add the salt through the cell. Add it directly to the swimming pool or into the balance tank.
 - d. When adding the salt, is recommended to carry out a treatment with chlorine. An initial dose of 2 g/m³ of trichloroisocyanuric acid may be added.
 - e. Prior to starting up the salt chlorinator, let the circulation system work for 24 hours to ensure that the salt is completely dissolved.
 - f. Connect the Emaux SSC one® power supply and turn it on, locating the % Power output at 50%.
 - g. In outdoor swimming pools it is recommended to maintain a level of 30-50 ppm of cyanuric acid (stabilizer) in the pool. This will help to stop the chlorine produced from being destroyed by the sun.
4. Once the pool water is balanced, there are three factors that the user can control, which contribute to the amount of chlorine produced:
 - a. Filtration time per day (hours).
 - b. The amount of salt in the pool.
 - c. The % Power output setting.

启动 Emaux SSCone® 部件的安装时，需考虑以下几点：

1. 检查过滤器是否干净，确保泳池和安装不含任何被溶解的金属或水藻。
2. 确保加热设备（如果有的话）适宜于在盐水中使用。
3. 确保泳池的化学参数保持在下列数值范围内：
 - a. pH 值在7.2-7.6之间
 - b. 总碱度在 80-120 ppm之间。
 - c. 尽管盐分值应在2500 - 4000 ppm范围内，为了启动安装，建议通过加入3 Kg/m³的水使盐分水平的最小值保持 3000 ppm。如前所述，必须使用普通的盐（NaCl），不含添加剂如碘化物，且不能将盐加入电解盒，而应将盐直接加入泳池或平衡槽。
 - d. 加入盐时，建议进行一个氯处理。可以加入原始剂量为2 g/m³的三氯异氰尿酸。
 - e. 在启动熔盐氯化炉前，让循环系统工作24小时，以确保盐充分溶解。
 - f. 与Emaux SSCone® 电源相连，开启，将 %电力输出设定为 50%。
 - g. 在户外泳池中，建议在泳池中保持30-50 ppm水平的氰尿酸（稳定剂）。这样可以避免因阳光导致的产氯量受损。
4. 一旦池水保持了平衡，使用者就可以控制以下的三个因素，这些因素与产氯量有关系：
 - a. 每天的过滤时间（小时）。
 - b. 泳池中的含盐量。
 - c. %电力输出的设定。

To find the optimum chlorine generation, start at approximately 50% power output. It will take a few days of adjustments to find the most appropriate setting according to the swimming pool or spa chlorine demand. Once determined, it should only take minor adjustments, if at all, to compensate for differing salt levels due to splashing, backwashing, rain, etc.

The temperature of the water is a parameter that effects the production of Chlorine. The higher is the temperature, the lower is the production of chlorine. For this reason, it is important to adjust the settings if the water temperature increases or decreases. The Emaux SSC one® will not produce chlorine at temperatures below 10° C. If the water is below this temperature, then the manually chlorination must be proceeded.

The desired level of chlorine generation can be modified according the following parameters:

- Pool water temperatures increases or decreases significantly.
- When there is a higher load of bather than normally.
- When the cells life time is finishing.
- In a long period of inactivity or winterizing.

为得到最佳的产氯效果，用大约50%的电力输入启动。调整可能会花上几天的时间，才能找到最适宜的设置，满足泳池或温泉疗养中心的产氯要求。一旦确定下来，就仅仅需要一些小的调整，如果有必要的话，以弥补由于泼溅、反流、雨水等导致的盐分水平不同。

水温是影响产氯量的一个参数。温度越高，产氯量越低。为此，如果水温增加或降低时，调整设置就显得尤为重要。Emaux SSCone® 在10°C以下无法生成氯。如果水温在此之下，就必须进行手动氯化。

根据如下参数，产氯量的期望值可以进行修改：

- 池水温度大幅度上升或下降。
- 当游泳的人的数量比一般情况下要多时。
- 当电解盒寿命终结时。
- 长时间静止或处于过冬状态。

9.0-OPERATION 操作

The Control panel of the Emaux SSC one® unit is composed by three different indicators: Left side indicators, right side indicators and three circle controllers (Fig. 6):

Emaux SSCone® 部件的控制版面由三个不同指针组成：左侧指针、右侧指针和三个循环控制器（图5）：

检查泳池中的水的总硬度后，相应地选择以下按钮：

- * 软：总硬度低于200 ppm CaCO₃
- * 中度：总硬度位于200至400 ppm CaCO₃
- * 硬：总硬度高于400 ppm CaCO₃

通过选择软、中度或硬，电解盒的电极会改变。

- * 软：电极每12小时改变一次
- * 中度：电极每8小时改变一次
- * 硬：电极每4小时改变一次

9.2.5



冬季模式

As in the Pool Cover indicator (chapter 8.1.4), in Winter Mode the system will turn down the chlorine production slowly to 50% of the current setting.

If any automatic pool cover is installed due to winterizing the pool, the system will detect when the cover is closed and will drop down the power value 50% more.

如泳池盖子指示灯中所示（9.1.4章），处于冬季模式时，系统会慢慢将产氯量降至目前设置的50%。如果为了冬化泳池而安装了自动泳池盖子，系统会监测到盖子何时关闭，同时将功率数值降低50%以上。

9.3-THREE CIRCLE CONTROLLERS 三个循环控制器

9.3.1 TIMER CONTROLLER 计时控制器

The Timer will provide the following information:

- * Production of chlorine schedule.
- * Filtration time schedule.
- * Current time

计时器将提供下列信息：

- * 产氯时间表
- * 过滤时间表
- * 当前时间

There are two different LEDs lighting the Timer:

计时器有两个不同的LED灯：

GREEN LIGHT 绿灯	RED LIGHT 红灯
Is the time schedule. Up to two different working schedules per day. 是时间表。 每天至多两个不同的工作时间。	Is the current time. 是目前的时间。



For setting the time schedules, proceed as follows:

a) Setting the first working schedule:

- * Press the button SET: a single green LED will appear indicating the starting hour of the first working schedule.
- * Press + or - to select the starting hour.
- * Press SET to confirm the starting time: The range of operating hours will be lighting, and the last hour will be flashing.
- * Press + or - to select the last hour of the working schedule.
- * Press SET to confirm.

b) Setting the second working schedule:

- * The same procedure must be followed for the second schedule.
- * In the above two time periods, only one of the time periods is allowed to cross the 0 o'clock time for continuous operation. Also, when setting the time period, avoid overlapping the two time periods.
- * At the end, the two different working schedules will be lighting in green in the TIMER.

	SOLID LIGHT 固定的灯	FLASHING LIGHT 闪灯	NO LIGHT 无灯
POWER 电源	System switched on 系统开启	System switched off 系统关闭	Power supply is disconnected 电源被切断

When the system turns on again, the timer, operating schedule, output power and pH set point remains the same as per the last session.

如果系统再次开启，计时器、工作时间表、输出功率和pH设置点跟上一个期间相同。

9.2.2 泵

The auto mode button needs to be pressed for 3 seconds to start. Similarly, it takes 3 seconds to exit auto mode.

自动模式按钮需要长按3秒启动，同样，需要退出自动模式也需长按3秒。

	SOLID LIGHT 固定的灯	FLASHING LIGHT 闪灯	NO LIGHT 无灯
PUMP 泵	The filtration pump is working and does not depend on the schedule time programed in the unit. 过滤泵正在工作，但并不遵循部件程序所设定的规定时间	The filtration pump will work according to the time scheduled. (Auto Mode). 过滤泵将按照规定时间工作（自动模式）	The filtration pump is not working. 过滤泵不工作。

9.2.3 自动

	SOLID LIGHT 固定的灯	NO LIGHT 无灯
AUTO 自动	Emaux SSC one® unit will operate according to the time scheduled. Emaux SSC one® 部件将按照规定时间操作	The mode AUTO is switched off and the system will not produce chlorine, even if the filtration pump is working. If filtration pump is working in mode Auto, it will be switched off after few seconds. 自动模式关闭，系统不再产氯，即使过滤泵仍在工作也是如此。如果过滤泵在自动模式下工作，在几秒钟之后其就会关闭。

If the Salt Chlorinator has to operate according to an external timer, the system must operate in mode AUTO and the timer scheduled for 24 hours, so that only the external timer will be able to switch on/off the system.

如果盐氯化器必须要按照外部计时器规定的时间操作，则系统必须在自动模式下运行，计时器设定为24小时，这样只有外部计时器才能开/关系统。

9.2.4 水

After checking the Total Hardness in the water of the pool, select the button accordingly:

- * SOFT: Total Hardness is lower than 200 ppm CaCO₃
- * MED: Total Hardness is between 200 and 400 ppm CaCO₃
- * HARD: water when Total Hardness is higher than 400 ppm CaCO₃

By selecting Soft, Med or hard, the polarity of the cell will change.

- * SOFT: every 12 hours the polarity will change
- * MED: every 8 hours the polarity will change
- * HARD: every 4 hours the polarity will change

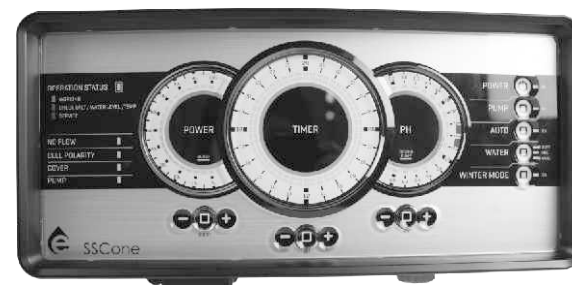


Fig. 6

9.1-LEFT SIDE INDICATORS 左侧指针

9.1.1-LEFT SIDE INDICATORS 操作状态

Operation Status informs about the state and operation of the Emaux SSC one® unit: 操作装填提供的是关于Emaux SSCone® 部件的状态和操作信息：

	SOLID LIGHTS 固定的灯	FAST FLASHING LIGHTS 快速闪动的灯	SLOW FLASHING LIGHTS 慢速闪动的灯
GREEN 绿色	System is running normally 系统运转正常		
RED 红色	Cell fault. Cell no attached or cell error. Contact Service Agent. 电解盒故障。未附上电解盒或电解盒错误。联系服务代理商。	High Salt. Renew with fresh water 盐分过高。重新注入新水。	Low salt. Add more salt into the pool water. 盐分过低。往池水中加入更多的盐。
BLUE 蓝色	High heat sink temperature. If the temperature of the heatsink reaches the internal thermal setting, the system will automatically reduce the output power until the temperature remains constant. 散热片温度过高。如果散热片的温度达到了内部温度设置，系统会自动降低输出功率，直到温度保持常量。	No probe attached or probe fault. 未附上探针或探针错误	pH dosing pump error or no acid. (pH readings has not changed after 5 dosing cycles). (pH 读数在5个加药周期后仍无变化)

Although only 1 error is displayed at any time, multiple errors can exist. In this case, the order of priority is as follows:

1. Cell Error or no cell attached.
2. pH error or no probe attached.
3. Acid Dosing pump error.
4. High Salt.
5. Low Salt.
6. High Heat Sink Temperature.

尽管在任何时候都只显示1个错误，但仍有可能存在多个错误。在这种情况下，优先顺序如下：

1. 电解盒错误或未附电解盒。
2. pH 错误或未附探针。
3. 加酸泵错误。
4. 盐分过高。
5. 盐分过低。
6. 散热片温度过高。

9.1.2 NO FLOW 无水流

If the red LED light is lighting, this means that the flow sensor does not detect water flow in the cell. Consequently, it will stop producing Chlorine immediately. In this stage, the filtration pump will be programmed for working in cycles of 5 minutes every 20 minutes. This will ensure a minimum flow rate in the system and will avoid the pump to run in dry conditions for a long period of time.

On the other hand, the pH dosing pump will continue working as normally.

如果红色LED灯亮起，说明水流传感器未在电解盒内监测到水流。因此，其将立刻停止氯的生成。在这一阶段，过滤泵将被编程，按每20分钟工作5分钟的周期来进行。这样可以确保系统的最小流速，避免泵在干燥的情况下运转很长一段时间。另一方面，pH加药泵将像通常一样继续工作。

9.1.3 CELL POLARITY 电解盒电极

Emaux SSC one® unit has a self-cleaning cycle which reverses the cell polarity, reducing scale build-up into the titanium plates and maximizing the cell life time.

Emaux SSC one® 部件拥有自我清洁循环，这会颠倒电解盒的电极，减少钛板上的水垢聚集，最大限度地增加电解盒寿命。

	GREEN LIGHT 绿灯	BLUE LIGHT 蓝灯	NO LIGHT 无灯
CELL POLARITY 电解盒电极	Polarity 1 电极 1	Polarity 2 电极 2	Cell is switched off and not producing chlorine. 电解盒关闭，不产生氯

When the cell reverses its polarity, the system will drop down the power to 0%, then will change the polarity and slowly will raise to the previous settings. By using the indicator WATER, the Hardness of the water can be selected and so, the period of the cell polarity will be different:

当电解盒的电极颠倒时，系统的电力会降至0%，然后电极会变化，慢慢上升至原来的设置。通过使用WATER（水）的指针，可以选择水的硬度，电解盒电极的时间段也会因此不同：

- * SOFT: 12 hours * 软: 12 小时
- * MID: 8 hours * 中度: 8 小时
- * HARD: 4 hours * 硬: 4 小时



Change the hardness of the water during the operation of the salt machine. The system will immediately adopt the new polarity replacement time. The polarity waiting time that was in progress will not be cleared and will continue to accumulate.

For example: Case 1,

The water hardness was originally set to: SOFT (12 hours)

The system is in the polarity 1 mode and has been working for 9 hours.

Now the operator changes the water hardness to MED (8 hours) and the system will immediately adopt the new replacement time. Therefore, the salt opportunity replacement polarity is polarity 2. At the same time, the polarity wait time is calculated from zero.

Case 2,

The water hardness was originally set to: HARD (4 hours)

The system is in the polarity 1 mode and has been working for 3 hours.

Now the operator changes the water hardness to MED (8 hours) and the system will immediately adopt the new replacement time. Therefore, the salt machine polarity will remain

在盐机运行过程中，改变水的硬度。系统会马上采用新的极性更新时间。原来进行中的极性等待时间不会清零，会继续累积。

例如：情况1，

水硬度原来设定为：SOFT（12小时）

系统处于正处于极性1工作模式，已经工作了9个小时。

现在操作人员把水硬度改为 MED（8小时），系统会马上采用新的更新时间。因此，盐机会更换极性为极性2。同时，极性等待时间从零开始计算。

情况2，

水硬度原来设定为：HARD（4小时）

系统处于正处于极性1工作模式，已经工作了3个小时。

现在操作人员把水硬度改为 MED（8小时），系统会马上采用新的更新时间。因此，盐机极性会保持为极性1。同时，极性等待时间会继续累积。从3小时继续累积。

9.1.4 COVER 盖子

Emaux SSC one® unit will detect if the pool cover is closed by lighting this indicator in green color. When the pool cover is closed, the system will automatically turn down the cell power to 50% of your established setting power.

However, if the pool cover is close and the WINTER MODE is ON, the system will turn down the cell power 50% of the cell power turned down by the pool cover.

Emaux SSCone® 部件会通过将此指针显示为绿色的方式检测泳池的盖子是否关闭状态。如果泳池盖子关闭，系统会自动将电解盒功率降低至你所设的功率的50%。

然而，如果泳池的盖子关闭，但WINTER MODE（冬季模式）开启，系统会将电解盒功率降低至泳池盖子所关闭的电解盒功率的50%。



For example, if during the operating period the cell power is working at 100%, by closing the cover the power will drop down at 50%, and selecting WINTER MODE will drop at 75%.

例如，如果在操作期间，电解盒功率为100%，则关闭盖子后，功率将下降到50%，选择WINTER MODE（冬季模式）后，将下降到75%。

9.1.5 PUMP 泵

This indicator informs about the status of the filtration pump: 此指示器提供的是关于过滤泵状态方面的信息：

	SOLID LIGHT 固定的灯	FLASHING LIGHT 闪灯	NO LIGHT 无灯
PUMP 泵	Filtration pump is working in normal conditions. 过滤泵工作状态正常。	Filtration pump is running but no flow is detected in the cell electrolysis or the flow rate is not enough to fill completely the cell. 过滤泵正在运行，但电解盒中未监测到水流，或水流不足以全部充满电解盒。	Filtration pump is not activated. 过滤泵未被激活。

9.2-RIGHT SIDE INDICATORS 右侧指示灯

9.2.1 POWER 电源

Main power will switch on and off the system. Press the button for 3 seconds to switch the unit off. 主电源将开/关系统。长按此按钮3秒钟，关闭部件。