

OLLO™ CHLORINE GENERATOR

User Manual

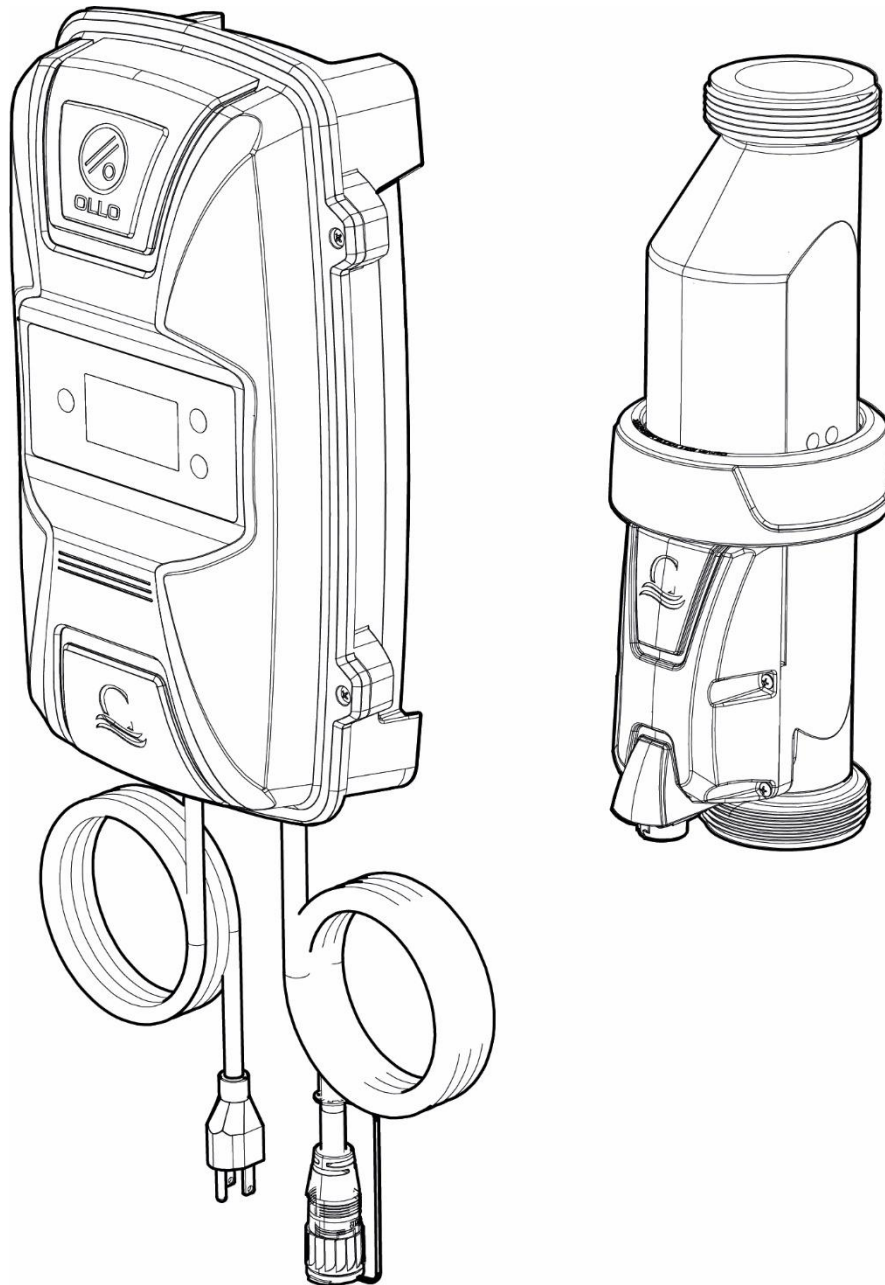


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INTRODUCTION

Thank you for purchasing a CARVIN® OLLO™ Chlorine Generator System ("Product").

We want to help you get the best results from your new Product and operate it safely. This manual contains information on how to do that; please read it carefully before operating the chlorine generator. If a problem should arise, or if you have any questions about your product, consult an authorized CARVIN® retailer or distributor.

All the information in this manual is based on the latest Product information available at the time of publication. The manufacturer reserves the right to make changes at any time without notice and without incurring any obligation. No part of this publication may be reproduced without written permission.

READ AND FOLLOW ALL INSTRUCTIONS

Review all instructions provided with the product prior to its installation, startup, operation, shutdown, maintenance or winterization.

Any handling related to the electrical installation of this product must be done by a certified electrician. Grounding the product with a grounding terminal is required. A circuit diagram is provided this manual.

Failure to follow warnings and safety messages may result in property damage or personal injury. The user assumes the bodily or material risks arising from any improper use of this product.

SAVE THESE INSTRUCTIONS

This manual should be considered a permanent part of the product and should remain with the product if resold.

IMPORTANT SAFETY INSTRUCTIONS

Your safety and the safety of others are very important.

This manual provides important safety messages. A safety message alerts you to potential hazards that could hurt you or others. Each safety message is identified by a black box and one of three words, DANGER, WARNING, or CAUTION.

CAUTION

When using electronic products, basic precautions should be followed, including the following.

CAUTION

Before connecting, the main circuit breaker must be de-energized. For safe operation, the chlorine generator system must be properly installed, connected and grounded.

DANGER

To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

WARNING

This Product is not recommended for plastic spa tanks. Consult your distributor or retailer for general compatibility.

CAUTION

This Product is designed to produce chlorine, not to monitor the chlorine concentration level. It is the sole responsibility of the owner to analyse the water chemistry and adjust the chlorine production frequency to meet the requirements prescribed in this manual.

This Product is compliant with applicable safety standards in Canada and in the United States of America.



IAPMO EGS File E10078
UL 1081
CSA C22.2 NO. 218.1-13

In Canada, this pest control Product is to be used only in accordance with the directions in this manual. It is an offense under the Pest Control Products Act to use this product in a manner inconsistent with these directions.

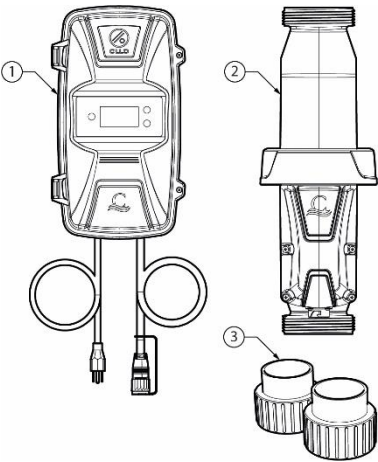
Pest Control Product Act Reg. No. 32813

This Product controls bacteria and algae in residential pools and spas. Do not use for sanitation of drinking water. Do not use this device with bromide products.

When replacing the OLLO™ electrolysis cell, only use replacement electrolysis cells labelled as a spare electrolysis cell for the CARVIN® OLLO™ Chlorine Generator.

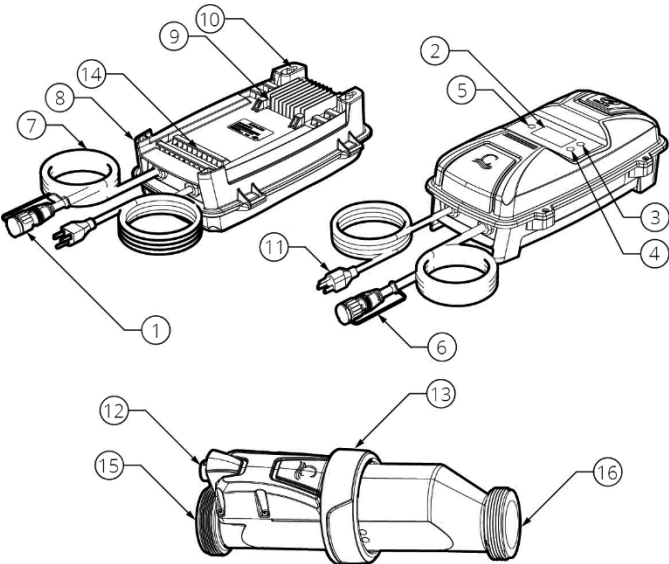
The Warranty of the product will be canceled if the Product is used for other purposes than pest control for swimming pools and spas.

PACKAGE CONTENT



ID	Description	Qty
1	Control Panel	1
2	Electrolysis Cell	1
3	Union	2
-	User Manual	1
-	Mounting Screws	2

COMPONENTS AND CONTROLS



ID	Description
1	Cell Cable Connector
2	Display
3	DOWN Button
4	UP Button
5	Mode Button
6	Dust Cap
7	Electrolysis Cell Cable
8	Enclosure
9	Heatsink
10	Mounting Holes
11	Power Cable
12	Socket Connector
13	Tightening Ring
14	Ventilation slots
15	Water Inlet
16	Water Outlet

FEATURES

The OLLO™ Chlorine Generator System makes it easier than ever to maintain the water quality in your swimming pool.

HIGH DEFINITION DISPLAY

Navigate, select options and read system status with ease of use.

BUILT-IN WATER MONITORING SENSORS

A temperature sensor and flow switch are integrated to the electrolysis cell. No extra accessories to install or connect.

HEAVY DUTY CONNECTOR SYSTEM

Its push-lock/twist-pull keyed connector makes connecting the electrolysis cell safe and easy. The panel mount connector located on the electrolysis cell and the included dust cap make it easier to winterize the system.

ADVANCED MODE

Through an advanced menu, access real-time information about your system.

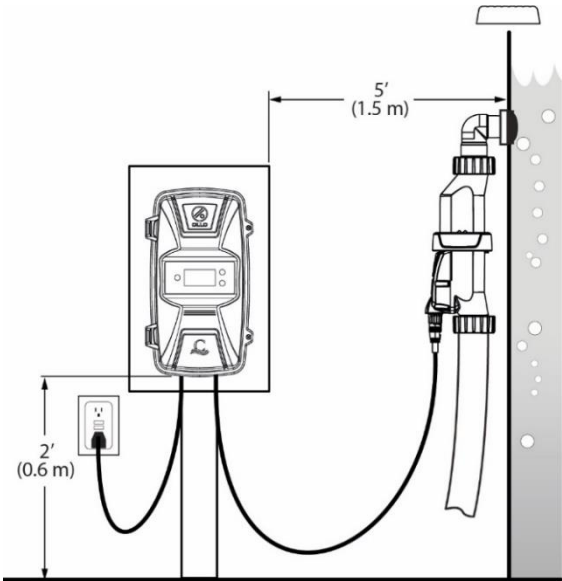
INSTALLATION

To reduce the risk of injury, installation and maintenance must be performed by a qualified pool professional.

The electrical installation must be done in accordance with the Canadian Electrical Code, the National Electrical Code (USA) or any other local or national requirements.

CONTROL PANEL

The control panel of the OLLO™ is designed for outdoor installation. It must be installed at a minimum distance of 1.5m (5ft) from the pool and at a minimum of 0.6m (2ft) from the ground, or in accordance with local and national requirements.



It is designed to be mounted on a vertical, flat surface, in a ventilated area.

Two screws are provided for mounting the control panel.

Do not install horizontally or upside down. Do not obstruct the ventilation slots on the back of the enclosure. Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.

WARNING

Risk of Electric Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a Class A GFCI.

WARNING

To reduce the risk of electric shock, replace damaged cord immediately.

The OLLO™ control panels come either with a single or dual input voltage. Both models come with a factory installed NEMA 5-15P power cord assembly, for use on a 120V power source.

Refer to section Technical Information for details.

The OLLO™ control panel with dual voltage can be converted to operate from a 240V power source. This conversion requires the replacement of the factory installed power cord. No jumper or rewiring is required.

Connect the Product directly to the power source. Do not connect through an extension, relay, timer or power strip.

CONVERSION TO 240V

This conversion must be done by a certified electrician and in accordance with local and national requirements. For warranty purposes, keep the electrician's bill or work order. This conversion process is reversible.

The single voltage OLLO™ control panel is not designed for 240V input voltage and attempting to power on this model on a different input voltage than 120V may result in property damage or personal injury.

The replacement power cord (not included) must have the following requirements:

- Jacketed cord, 6' (1.5m) maximum length
- Certified SJTW type minimum, 14/3AWG, 105°C, 300V
- Cable gland Heyco #1260 or certified equivalent

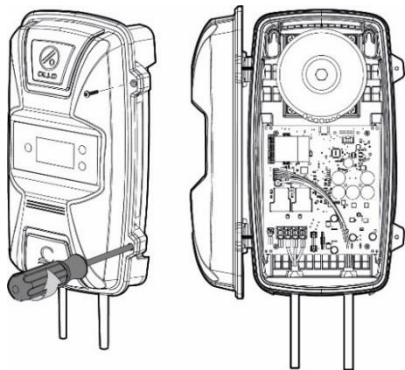
For connection to a junction box, strip wire leads to 5.9" (150mm).

For connection to a socket connector, install a certified 3-prong plug.

WARNING

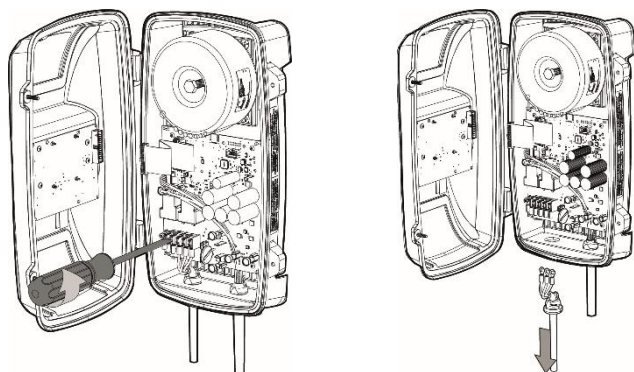
Do not open the OLLO™ control panel while connected to a power source.

Open the OLLO™ control panel by removing the 2 screws on the enclosure.



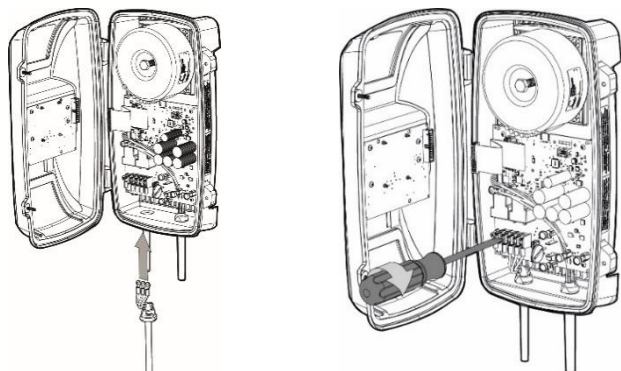
Locate the input power terminal block and loosen the 3 screws holding the factory installed power cord wires to the power terminal block.

Locate the cable gland on the power cable. Using pliers, squeeze and pull the cable gland to remove the power cable from the enclosure.



The cable gland should come off the original power cord easily. Keep it aside.

Using pliers, position and hold the cable gland on the new 240V power cord 1/2" from the stripped cord jacket. Push the cable gland through the enclosure and release the pliers.



Position the wires on the input power terminal block. Tighten the three (3) screws and secure the wires correctly in place.

Close the enclosure and use the two (2) screws to attach the cover to the bottom of the enclosure.

The dual voltage OLLO™ control panel will automatically detect the input voltage of 120V or 240V. No jumpers are needed nor rewiring of its electric circuit boards or transformer.

ELECTROLYSIS CELL

The cell must be the last element present on the plumbing circuit of the pool, except for the water return. Use the unions provided with the Product. Make sure the seals are properly positioned, then manually tighten both ends of the cell for a perfect seal.

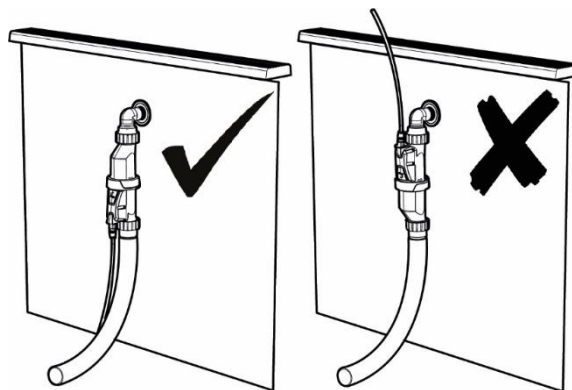
When installing the electrolysis cell with a water return light, it is recommended to use CARVIN® Stabilizing Elbow for Chlorinator Cell (sold separately). For maintenance purposes, it is recommended to install a valve between the water return and the electrolysis cell. Contact your pool equipment retailer or distributor for details.

ANGER

Install the electrolysis cell outdoor or in a well-ventilated area.

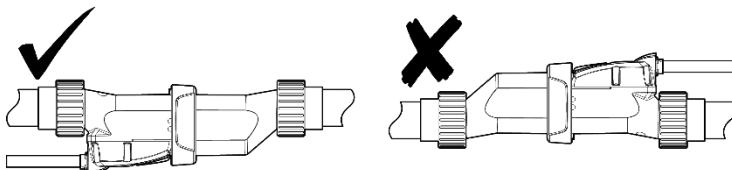
ABOVE-GROUND POOL

Install the OLLO™ electrolysis cell with its cable running down to the ground. If installed upside down, the flow switch will not detect water flow and will induce the system in error.



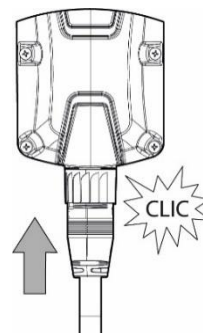
IN-GROUND POOL

Install the OLLO™ electrolysis cell with its cable located under the unit.



CONNECT THE ELECTROLYSIS CELL TO THE CONTROL PANEL

Remove the dust cap from the cell cable connector. Align its arrow with the one on the socket connector of the electrolysis cell. Push firmly the cable connector until it clicks in.



BEFORE-OPERATION CHECKS

WARNING

The Warranty of the product will be canceled if these conditions are not respected.

WARNING

Do not energize or operate if the cell housing is damaged or improperly assembled.

WARNING

Start the pool pump BEFORE starting the chlorine generator.

WATER CHEMISTRY

Before starting the chlorine generator, check the chemistry of the pool water. It is recommended to consult a pool professional for initial water analysis to adjust at the beginning of the season.

According to the standards of The Association of Pool & Spa Professionals (APSP), it is recommended to check and maintain the chemical parameters of the water on a regular basis in order to protect the users of the pool, the integrated pool equipment and the surrounding of the swimming pool. It is important to maintain these values to avoid corrosion, scaling and other problems.

TABLE – RECOMMENDED WATER CHEMICAL PARAMETERS

Parameter	Minimum	Target	Maximum
Temperature Range	+50°F (+10°C)	-	+122°F (+50°C)
Salt Concentration	3000 ppm	3300 ppm	4000 ppm
Cyanuric acid	30 ppm	80 ppm	100 ppm
pH	7.2	-	7.8
Free chlorine	1.0 ppm	-	3.0 ppm
Combined chlorine (chloramine)	-	0 ppm	-
Total alkalinity	80 ppm	-	120 ppm
Calcium hardness	200 ppm	-	300 ppm
Total Dissolved Solids (TDS), including salt	-	-	6000 ppm
Metals (copper, iron, manganese)	-	None	-
Nitrate	-	None	-
Phosphate			125 ppb
Saturation index	-0.2	0.0	+0.2

ppm = part-per-million; ppb = part-per-billion

Your authorized CARVIN® retailer and most pool stores will provide you with chemicals and methods for adjusting water chemistry. Be sure to mention at the pool store that you are using an OLLO™ Chlorine Generator System.

SALT RECOMMENDATION

Use salt (sodium chloride, NaCl) 99.8% pure and above. Pure salt will contribute to a better life and better performance of your OLLO™. It is recommended to use evaporated, granulated, food grade, non-iodized and additive free salt.

Compressed salt pellets (high purity) may be used but will take longer to dissolve. These pellets can damage plaster pools and other surfaces in and around the pool.

Do not use salt containing anti-caking agents (sodium ferrocyanide, sodium yellow prussiate). These agents can cause discoloration of fittings and surfaces in the pool. Do not use with calcium chloride, potassium chloride or rock salt.

Consult your salt supplier for more information.

SALT CONCENTRATION

Most pools contain some salt, depending on the source of water and chemicals used for disinfection. Therefore, the pool owner should always check the salt concentration before adding any more. Refer to the following table to determine the amount of salt needed for your pool.

The salt concentration required for the operation of the OLLO™ system is between 3000 (lower limit) and 4000 ppm (upper limit).

Concentration below the lower limit will shut down the system. Concentration above the upper limit will shut down the system and may cause excessive corrosion or deterioration of the pool or spa equipment, including the OLLO™ electrolysis cell, and surfaces in and around the pool.

A calibrated salinity reader, salt test strip, electronic tester, titration can be used to determine the salt concentration in your pool water. The results will vary according to the measurement method. In general, the accuracy of these tests is ± 500 ppm. An uncalibrated instrument or an expired test kit will provide inaccurate results.

INCREASE SALT CONCENTRATION

Before adding salt, disconnect the OLLO™ system from the main power supply.

Gradually pour the salt into the pool water in front of the jets to facilitate dispersion and dissolution. Do not add salt in or near the skimmer, or directly to the main drain. Excessive salt concentration in the pool plumbing could damage your equipment, including the OLLO™ electrolysis cell, permanently or shorten its life. If the salt settles at the bottom of the pool, use a brush adapted to the pool to help dissolve.

Once the salt is added, activate the pump for 24 hours and circulate the water. Do not reconnect the OLLO™ system during this period.

When 24 hours have elapsed, reconnect the OLLO™ system to the main power supply. Let the water circulate again for 24 hours before checking the salt concentration. Adjust as needed.

TABLE – ADDITION OF SALT

Current salt concentration level	Pool diameter and approximate water volume gal (L)							
	12' (3.6m)	15' (4.6m)	18' (5.5m)	21' (6.4m)	24' (7.3m)	27' (8.2m)	30' (9.1m)	33' (10.0m)
	4000 (15000)	6000 (22500)	8000 (30000)	10000 (37500)	12000 (45000)	14000 (52500)	16000 (60000)	18000 (67500)
Suggested salt addition lbs (kg)								
0 ppm	100 (45)	150 (69)	200 (91)	250 (114)	300 (136)	350 (159)	400 (182)	450 (205)
200 ppm	93 (42)	140 (64)	187 (85)	233 (106)	280 (127)	327 (148)	373 (170)	420 (191)
400 ppm	87 (39)	130 (59)	173 (79)	217 (98)	260 (118)	303 (138)	347 (158)	390 (177)
600 ppm	80 (36)	120 (55)	160 (73)	200 (91)	240 (109)	280 (127)	320 (145)	360 (164)
800 ppm	73 (33)	110 (51)	147 (67)	183 (83)	220 (100)	257 (117)	293 (133)	330 (150)
1000 ppm	67 (30)	100 (46)	133 (61)	167 (76)	200 (91)	233 (106)	267 (121)	300 (136)
1200 ppm	60 (27)	90 (41)	120 (55)	150 (68)	180 (82)	210 (95)	240 (109)	270 (123)
1400 ppm	53 (24)	80 (36)	107 (48)	133 (61)	160 (73)	187 (85)	213 (97)	240 (109)
1600 ppm	47 (21)	70 (32)	93 (42)	117 (53)	140 (64)	163 (74)	187 (85)	210 (95)
1800 ppm	40 (18)	60 (27)	80 (36)	100 (45)	120 (55)	140 (64)	160 (73)	180 (82)
2000 ppm	33 (15)	50 (23)	67 (30)	83 (38)	100 (45)	117 (53)	133 (61)	150 (68)
2200 ppm	27 (12)	40 (18)	53 (24)	67 (30)	80 (36)	93 (42)	107 (48)	120 (55)
2400 ppm	20 (9)	30 (14)	40 (18)	50 (23)	60 (27)	70 (32)	80 (36)	90 (41)
2600 ppm	13 (6)	20 (9)	27 (12)	33 (15)	40 (18)	47 (21)	53 (24)	60 (27)
2800 ppm	7 (3)	10 (4)	13 (6)	17 (8)	20 (9)	23 (11)	27 (12)	30 (14)
3000 ppm	lower limit							
3200 ppm	acceptable							
3300 ppm	target							
3400 ppm	acceptable							
3600 ppm	upper limit							
3800 ppm & +	dilute concentration							

TABLE – ADDITION OF STABILIZER

Current stabilizer concentration level	Pool diameter and approximate water volume gal (L)							
	12' (3.6m)	15' (4.6m)	18' (5.5m)	21' (6.4m)	24' (7.3m)	27' (8.2m)	30' (9.1m)	33' (10.0m)
	4000 (15000)	6000 (22500)	8000 (30000)	10000 (37500)	12000 (45000)	14000 (52500)	16000 (60000)	18000 (67500)
Suggested stabilizer addition lbs (kg)								
0 ppm	2.0 (0.9)	3.0 (1.4)	4.0 (1.8)	5.0 (2.3)	6.0 (2.7)	7.0 (3.2)	8.0 (3.6)	9.0 (2.2)
10 ppm	1.7 (0.8)	2.5 (1.1)	3.3 (1.5)	4.2 (1.9)	5.0 (2.3)	5.9 (2.7)	6.7 (3.0)	7.5 (3.4)
20 ppm	1.3 (0.6)	2.0 (0.9)	2.7 (1.2)	3.3 (1.5)	4.0 (1.8)	4.7 (2.1)	5.4 (2.4)	6.0 (2.7)
30 ppm	1.0 (0.5)	1.5 (0.7)	2.0 (0.9)	2.5 (1.1)	3.0 (1.4)	3.5 (1.6)	4.0 (1.8)	4.5 (2.0)
40 ppm	0.7 (0.3)	1.0 (0.5)	1.3 (0.6)	1.7 (0.8)	2.0 (.91)	2.4 (1.1)	2.7 (1.2)	3.0 (1.4)
50 ppm	0.3 (0.2)	0.5 (0.2)	0.7 (0.3)	0.8 (0.4)	1.0 (0.45)	1.2 (.54)	1.4 (.64)	1.5 (.68)
60 ppm	target							
70 ppm & +	dilute concentration							

When 24 hours have elapsed, reconnect the OLLO™ system to the main power supply. Let the water circulate again for 24 hours before checking the salt concentration. Adjust as needed.

DECREASE SALT CONCENTRATION

If the salt concentration in the water is too high, the excess salt cannot simply be removed from the water. Salt will not evaporate from the water. To reduce the salt concentration, you must partially empty the pool and fill it with fresh water.

STABILIZER

It is recommended to test the concentration of stabilizer (cyanuric acid) once every month. Always check with a pool professional or water analysis services.

OPERATION

SETTING LANGUAGE

By default, the language of the operating system is set to English. French and Spanish are available.

To change the operating system language, press the MODE button for 3 seconds. Then press the DOWN button to scroll through the available languages. The choice of language will be set after 5 seconds of inactivity in this menu.

CHLORINE GENERATION

To access the chlorine generation modes, press the Mode button. Pressing the Mode button again will activate the next available mode. The OLLO™ Chlorine Generator system is factory set to the AUTO mode at 20 minutes per hour.

AUTO MODE

This mode sets the frequency the chlorine generator is active. Use the UP and DOWN buttons to adjust the AUTO mode frequency, from 5 to 60 minutes per hour.

SUPER-CHLORINATE MODES

These modes set the time for which the chlorine generator is 100% active. Press the Mode button to select the desired time (6, 12, 24 hours).

When time is over, the AUTO mode resumes.

STOP

This mode sets the chlorine generator to inactive.

CHLORINE LEVEL

The number of bathers, temperature and other environmental factors will influence the chlorine level of a pool. Finding the right level is not a perfect science. Following the recommendations will help find the right balance.

Start with AUTO mode set to 30 minutes per hour. For a good start, test the chlorine level everyday, then every few days. Adjust the AUTO mode frequency in function of the test results, adding or reducing the active chlorine generation.

Hot days, the presence of many bathers will require more chlorine generation, while cooler days will require less.

SHUTDOWN THE SYSTEM

The OLLO™ Chlorine Generator system is not equipped with an On/Off switch.

Press the Mode button to select the Stop mode. Then disconnect the power cable.

WARNING

Product can be permanently damaged if connected to a power source during a lightning storm.

ADVANCED MODE

To access additional information about your OLLO™ Chlorine Generator, press the MODE and DOWN button for 5 seconds. The screen will show the message Reading for a few seconds

Press the MODE button to scroll through the menu. The advance mode will be turned off after 10 seconds of inactivity.

SALT INSTANT

Displays the instant salinity reading (e.g. "3000 ppm").

SALT AVERAGE

Displays an average salinity based on the last 24 hours (e.g. "3100 ppm").

TEMP

Displays the water temperature (e.g. "77 F").

VOLT

Displays the voltage at the electrodes.

CURRENT

Displays the current at the electrodes.

'U', 'T' AND 'C' NUMBERS

Display status codes (e.g. "U125") required for troubleshooting.

VERSION

Displays the software version (e.g. "0.6").

MAINTENANCE

The OLLO™ electrolysis cell features an automatic reverse polarity switching system. This is necessary to reduce scale build up on the electrodes.

WARNING

Operating the OLLO™ electrolysis cell with calcium build up bridging between electrodes will cause damage to the Product and void the warranty.

INSPECTION

It is recommended to inspect the OLLO™ electrolysis cell every three (3) months to maintain maximum efficiency. The control panel will display a maintenance reminder after 500 hours of use.

If inspection reveals debris in the cell or scaled electrodes, follow the Cell Cleaning instructions in this manual.

If the inspection does not reveal any faults or when the cleaning is done, reset the maintenance reminder timer by pressing the UP and DOWN buttons simultaneously.

In an area where water is hard (rich in calcium and/or minerals) and in pools where the chemical composition of the water is not balanced, the OLLO™ electrolysis cell may require more frequent inspections and cleaning. When cleaning is needed, the control panel will display a warning.

REMOVING THE ELECTROLYSIS CELL

Stop water circulation by turning off the pump. If you have a valve installed like suggested in section Installation, shut it off. If you don't have a valve installed, use a pool water return line plug to prevent the pool from emptying while the electrolysis cell is absent.

Unscrew the union on the water inlet side, then unscrew the union on the water outlet side. Keep unions and seals away from dirt or debris.

Rinse the inside of the electrolysis cell thoroughly with fresh water and let it dry.

CLEANING THE ELECTROLYSIS CELL

Do not use a scraper or high-pressure water jet, as this may scratch or damage the electrodes.

Disconnect the OLLO™ system from the mains supply.

Follow instructions in section Removing the Electrolysis Cell.

Clean the electrodes with a mild acid. Refer to the following section for recommendations.

Reinstall the OLLO™ electrolysis cell following the installation instructions in this manual.

USE OF MILD ACID

It is recommended to use acid cleaning solutions specifically designed for the cleaning of electrolysis cells. A solution of water and hydrochloric acid (muriatic) can also be used.

Consult your authorized dealer or distributor for more details. Follow the manufacturer's instructions and safety tips.

CAUTION

Wear protective goggles, clothing and resistant gloves. Always pour the acid into the water. Never pour the water in the acid.

WARNING

Over cleaning the OLLO™ electrolysis cell with an acid solution will impact its life expectancy.

With a 2" pipe plug (sold separately), close the OLLO™ electrolysis cell on the same end as of the socket connector. Place the cell upright on a flat surface and make sure it is well balanced.

Pour the solution inside the OLLO™ electrolysis cell. Cover the entire surface of the electrodes. Do not submerge the OLLO™ electrolysis cell completely in the solution.

Refer to the manufacturer instructions. Rinse thoroughly with fresh water. Dispose of waste according to the regulations in force.

WINTERIZATION

Water freezing and winter precipitation can damage some components of the CARVIN® OLLO™ Chlorine Generator System.

If you live in an area where winter is cold, the OLLO™ electrolysis cell must be removed from the pool plumbing and stored in a sheltered room at a temperature above freezing. Follow instructions in section Removing the Electrolysis Cell.

The OLLO™ control panel is designed to withstand temperatures extreme cold. If snow and/or ice can accumulate on the control panel, it is recommended to store it in a sheltered room.

Do not cover the OLLO™ control panel with a cover, bag, or other object that prevents the flow of air around the Product. Doing so will impact the life expectancy of the Product.

SPRING STARTUP

See your pool equipment retailer or distributor for tips on how to start your pool after winterizing.

Do not power on the OLLO™ Chlorine Generator if the water chemistry does not meet the Recommended Water Chemical Parameters from this manual.

Reinstall the OLLO™ electrolysis cell following the installation instructions in this manual.

TROUBLESHOOTING

STATUS DISPLAY

The OLLO™ control panel displays the status of the system.

SALT LIMIT | PLAN ADD

Chlorine production is active. Indicates that the salt concentration of the pool water is approaching the lower operating limit. An addition of salt will be expected to the pool water.

INACTIVE | SALT LOW

Chlorine production is inactive. The salt concentration is below the lower limit. Refer to section Water Chemistry of this manual.

INACTIVE | SALT HIGH

Chlorine production is inactive. The salt concentration is above the upper limit. Refer to section Water Chemistry of this manual.

INACTIVE | TEMP LOW

Chlorine production is inactive. The water temperature is too cold. Start up the water heating equipment or wait for nature to do its work.

INACTIVE | TEMP HIGH

Chlorine production is inactive. The water temperature is too hot. Shut down water heating equipment or wait for nature to do its work.

INACTIVE | NO FLOW

Chlorine production is inactive. Water does not circulate in the OLLO™ electrolysis cell. Make sure the pool pump is running, that no valves are closed on your plumbing system, and that no debris is blocking the flow of water into your system.

INACTIVE | NO CELL

Chlorine production is inactive. The OLLO™ electrolysis cell is not connected to the control panel, or it is not connected properly. Check that the OLLO™ electrolysis cell cable is correctly connected to the OLLO™ control panel.

FLOW DETECTED | 0:30

Chlorine production is inactive. A flow of water has just been detected in the OLLO™ electrolysis cell. If the flow rate is constant for more than 30 seconds, chlorine production will resume depending on the selected parameters.

OTHER SYMPTOMS AND SOLUTIONS

Symptom	Possibilities	Solutions
A message appears on the display	-	Refer to the above section Status Display for details and solutions.
Low level or no chlorine	The electrolysis cell is not generating chlorine.	Start or increase the chlorine generation.
	The water temperature has risen	
	The number of bathers has increased	
	Heavy rain or leaves have fallen in the pool.	Start or increase the chlorine generation.
	The level of stabilizer is incorrect.	Adjust the level of stabilizer as prescribed in section Stabilizer.
	The salt level is low.	Refer to section Increase Salt Concentration
	The water chemistry is not balanced.	Bring a water sample to your pool professional for analysis.
	The electrolysis cell is dirty.	Refer to section Maintenance.
High level of chlorine	The pool has recently been shocked	Let the shock oxidize and wait 24 hours.
	The system's auto mode is generating too much chlorine	Stop the chlorine generation until the level of chlorine is back to normal. Lower the frequency to which the system is generating chlorine.
The cell is not generating chlorine	The system is not powered.	Check if the power cable is properly connected to the main power source.
	The electrolysis cell is not connected.	Check if the cell connectors are well hooked up.
	The system is not set to generate chlorine.	Start the chlorine generation.
	System protections prevent the electrolysis cell from generating chlorine.	Check the display for real-time status and refer to section Status Display for details.
	The operating system encountered an error.	Unplug the power cable from the power source, wait for 5 seconds and plug back the power cable to the power source.
	The electrolysis cell is clogged with debris or scaling.	Refer to section Maintenance.

Symptom	Possibilities	Solutions
	The electrodes have reached the end of their lifespan	Replace the electrolysis cell with an original CARVIN™ OLLO® product. See your pool professional for details.
The buttons are not working	The operating system encountered an error.	Unplug the power cable from the power source, wait for 5 seconds and plug back the power cable to the power source.
The display is not showing information	The system is not powered.	Check if the power cord is properly connected to the main power source. Check if the circuit breaker is off.

TECHNICAL INFORMATION

PRODUCT MODEL

Feature	94180186	94180187	94180191
Power Input	Single Voltage	Dual Voltage	
25K Electrolysis Cell	Included	Compatible	
45K Electrolysis Cell	Incompatible	Compatible	Included

CONTROL PANEL

Specifications	Single Voltage	Dual Voltage
Input voltage	120V 60Hz	120V 60Hz 240V 60Hz
Maximum Current	1.8A	2.6A (1.3A)
Maximum Power	220W	320W
Dimensions (Height x Width x Depth)	372 x 217 x 71mm 14.6 x 8.5 x 2.8in	
Operating temperature	0°C to +50°C +32°F to +122°F	
Storage temperature	-40°C to +50°C -40°F to +122°F	

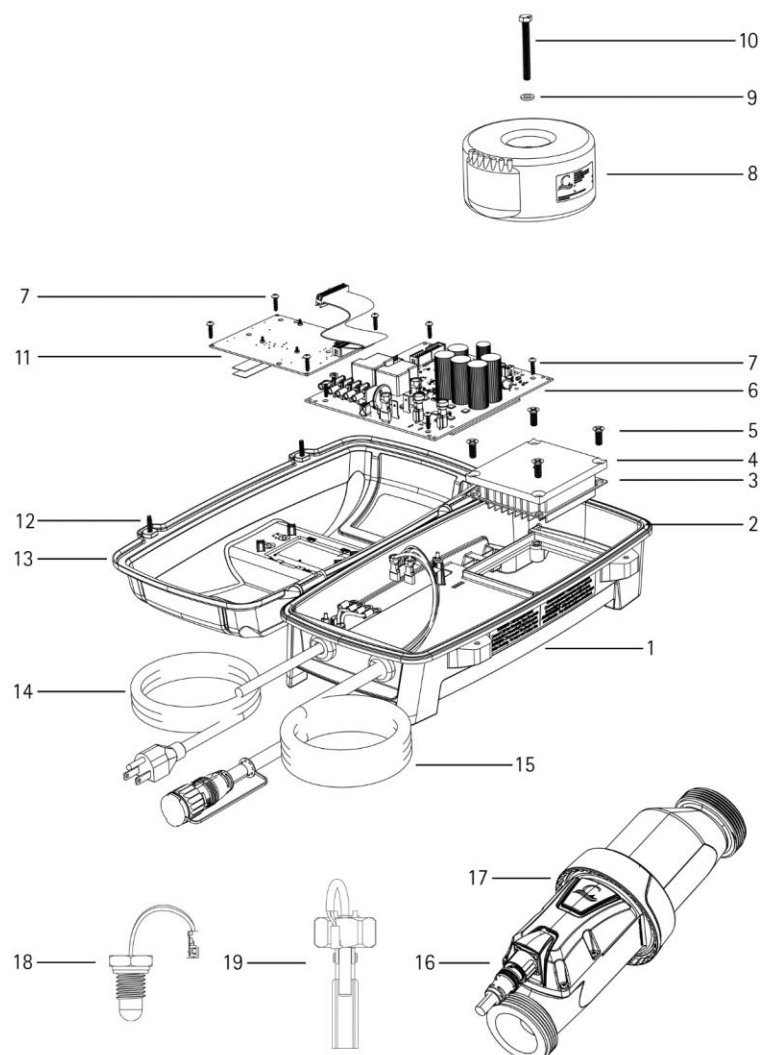
ELECTROLYSIS CELL

Specifications	25K	45K
Pool Water Capacity	94 635L 25,000gal	170 343L 45,000gal
Approximate Life (under normal conditions of use)	10 000hr	10 000hr
Fitting Dimensions	51 mm (2in)	
Dimensions (Height x Width x Depth)	357 x 144 x 128mm 14.1 x 5.7 x 5.0in	
Operating Temperature	+10°C to +50°C +50°F to +122°F	
Storage Temperature	0°C to +50°C +32°F to +122°F	

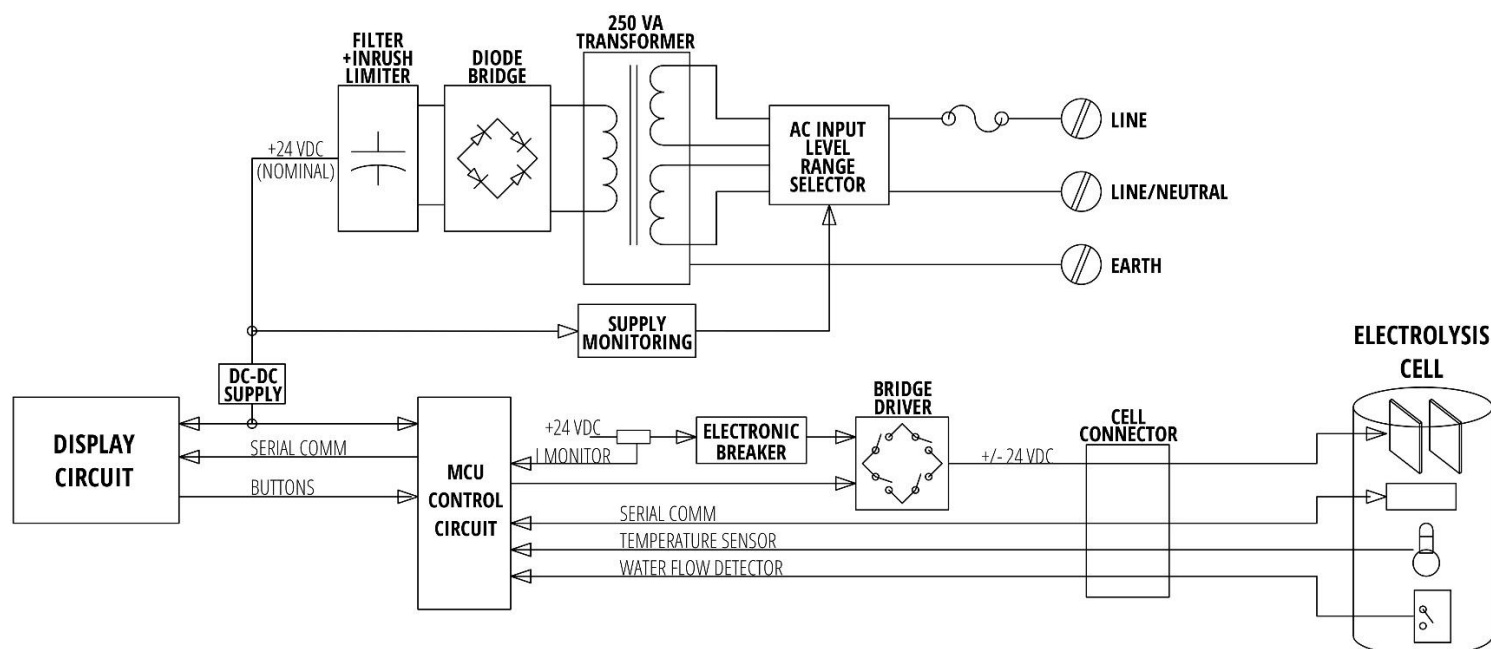
REPLACEMENT PARTS

ID	Part Number	Description
1	23-1100-01-R	Control panel enclosure, bottom part
2	47-0600-01-R	Gasket, for control panel
3	47-0600-04-R	Gasket, for heat sink
4	23-1100-13-R	Heatsink, for transformer
5	14-1740-08-R2	Screw, phillips flat head, zinc plated, M6 X 16 mm (2/pk)
6	23-8350-01-R	Circuit board assembly, control panel, single voltage
*	23-8350-10-R	Circuit board assembly, control panel, dual voltage
7	14-1740-01-R4	Screw, phillips pan head, zinc plated, #6 x 5/16" (4/pk)
8	23-8350-04-R	Transformer
9	14-0740-26-R	Washer, M6
10	14-1267-27-R	Screw, hex head, M6 X 55 mm
11	23-8350-02-R	Circuit board assembly, LCD Display
12	14-1740-02-R2	Screw, phillips pan head, for plastic, SS, #8 x 3/4" (2/pk)
13	23-1100-02-R	Control panel enclosure, cover part
14	23-8350-05-R	Power cord
15	23-8350-06-R	Electrolysis cell cable, external
16	23-8350-07-R	Electrolysis cell cable, internal
17	94-1801-71-R	Electrolysis cell, 25K Model
*	94-1801-76-R	Electrolysis cell, 45K Model
18	23-1100-09-R	Temperature sensor
19	23-1100-10-R	Flow switch

* Refer to section Technical Information to determine model



CIRCUIT DIAGRAM



CONSUMER INFORMATION

Authorized CARVIN® retailer or distributor personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your retailer or distributor does not solve to your satisfaction, please discuss it with the retailer's or distributor's management. The Service Manager, General Manager, or Owner can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the retailer's or distributor's management, contact the CARVIN® technical support.

When you write or call, please provide the following information:

- Product model, serial number and date code;
- Name of retailer or distributor who sold the Product to you;
- The original proof of purchase showing the date of purchase;
- Your name, address and telephone number;
- A detailed description of the problem; and
- If sending an email, any relevant photos of the Product and its surroundings.

WARRANTY

Le Groupe VIF Inc. ("VIF"), owner and manufacturer of the CARVIN® Pool Equipment brand, gives the following written Warranty on each new Product manufactured by or on behalf of VIF and distributed for sale in America.

VIF guarantees that each new Product will be free from any defects, in material or workmanship, for the Warranty period set below, under normal use and maintenance. If any defects should be found in a Product within the period set below and when VIF acknowledges that such defects are attributable to faulty material or workmanship at the time of manufacturing, at its discretion VIF will replace or repair with a new part or the CARVIN® equivalent, at no cost to the consumer for parts and labour.

The Warranty Period coverage starts from the original date of sale or when the unit is first installed as a demonstrator.

Product Model	Non-Commercial Warranty Period	Warranty Coverage
94180186 94180187 94180191	24 Months	100%

The actual Product item number may vary from the Product model number which may include a suffix for color, packing options or else.

This Warranty covers:

- Any Product purchased from a CARVIN® retailer or distributor authorized to sell that product in America.
- Any Product on which required maintenance services have been performed as prescribed in this manual.

This Warranty does not cover:

- Any repairs required as a result of collision, striking any object, frost, acts of God, careless use, misuse, improper installation, or lack of maintenance described in this manual;
- Any Product modified, altered, disassembled or remodelled;
- Shipping related costs to and from the manufacturer;
- Installation and removal related costs; and
- Normal maintenance services or water chemistry analysis service described in this manual.

This warranty is non-transferable and applies only to the first retail buyer, and only during the period when the first retail buyer occupies the place where the product was originally installed.

REPLACEMENT PARTS AVAILABILITY

Replacement parts are available through your CARVIN® retailer or distributor.

REPLACEMENT PARTS WARRANTY

New CARVIN® replacement parts sold to a consumer or installed by an authorized CARVIN® retailer which are not covered by this Warranty are guaranteed for a period of 3 months, however, this Replacement Parts Warranty does not apply to any replacement parts modified, used with, or installed on a Product for which the replacement parts were not intended.

ENTIRE WRITTEN WARRANTY

This Warranty is the only and the entire written Warranty given by VIF for its Product. No retailer or his agent or employee is authorized to extend or enlarge on these warranties on behalf of VIF by any written or verbal statement or advertisement.

TO OBTAIN WARRANTY SERVICE

You must first contact your authorized CARVIN® retailer or distributor. Please refer to section Customer Information.

Any defect must be reported to an authorized CARVIN® retailer or distributor within 72 hours to avoid potential breakage to other equipment, otherwise the warranty will not be honored.

TECHNICAL SUPPORT INFORMATION

After following the troubleshooting section of this manual and after contacting your dealer or distributor, if you have any problems with your Product, contact CARVIN™ Technical Support.

AMERICA

Email: help@carvinpool.com

Phone: 1 450 250-4500 option 2

Fax: 1 450 250-4501

Toll Free: 1 866 979-4501

Mail: CARVIN POOL EQUIPMENT
Technical Support
4000 boul. Casavant Ouest,
Saint-Hyacinthe, Québec, Canada, J2S 9E3

DISCLAIMERS

This Product is not for sale or for resale where prohibited by law or regulations.

The provisions contained in these written warranties are not intended to limit, modify, take away from, disclaim or exclude any warranties set forth in or the operation of The Consumer Products Warranties Act, 1977 (Saskatchewan), The Consumer Product Warranty and Liability Act (New Brunswick), The Consumer Protection Act (Quebec), or any other similar provincial or federal legislation.

VIF shall not be liable for any statement made or published, written or oral, that is misleading or inconsistent with the facts published in the documentation or specifications provided by VIF.



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