ZELIA VP

Salt electrolysis with transparent cell, Vigipool compatible

Réf : PF10I270

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Read these instructions carefully before installing, commissioning and using this product.

The cell of the Zelia VP must not be splashed with large amounts of water on a regular basis. When technical blocks are integrated and/or buried, we recommend you do not install it under a skimmer, these regularly overflow when people are in the pool.

The Zélia VP cell is designed to be installed on a horizontal pipe only, with the control interface on top. It should not be installed on a vertical pipe.

1. Packaged content

- 1 ZELIA VP power supply box
- 1 ZELIA VP cell
- 1 set of 2 1.5" union fittings for tubes with a 50mm diameter
- 1 bag including
  - 3 screws and 3 attachment pegs for the power supply box
  - 2 seals for the union fittings

2. Technical features

Power supply	230V ~ AC 50/60Hz
Power consumed	100W
Maximum volume treated*	100m³ *
Recommended salt rate	2 to 4 g/l (ideally 3 g/l)
Production of chlorine	up to 20g/h
Cleaning of cell	Automatic by reversal of polarity
Maximum pressure (cell)	3 bars
Maximum rate (cell)	15 m3/h
Protection index	Power supply: IP-44 Cell: IP-55
Overall dimensions	Power supply: 220 x 171 x 68mm Cell: 192 x 138 x 134mm Full box: 383 x 230 x 164mm
Installation	Power supply : Wall attachment (3 screws/pegs provided) Cell: On PVC tubes with a 50mm diameter (1.5" union fittings provided)
Poids	Power supply: 1 kg / Cell: 1,2 kg Full box: 2,9 kg

** given Volume for a pool water at 25°c, with a measured pH at 7.0, stalilizer at 40ppm, with no plant residues in water and an appropriate daily filtration time.*

3. Description

3.1. Principle of electrolysis

Salt water electrolysis separates salt (NaCl) into sodium (Na) and Chlorine (Cl). The chlorine is immediately dissolved into the water, producing hypochlorous acid (HCIO). This powerful disinfectant destroys bacteria and algae before turning into salt again.

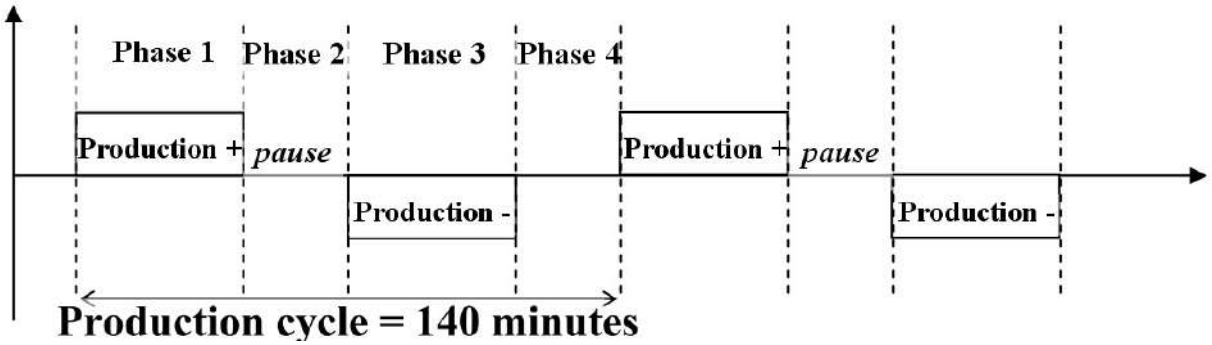
The quantity of chlorine required to disinfect a pool increases with the temperature and pH of the water.

The production of chlorine must be adjusted according to the environment and characteristics of the water:

- the water conductivity
- the water temperature
- the volume of the tank to be treated
- the water pH

With the safety of the installation in mind, the electrolyser only produces chlorine when the flow detector signals that water is flowing in the cell.

Thus, the electrolyser only produces chlorine during the filtration periods established by the programing clock of the pool's electrical box. Within these filtration periods, the production time consists of cycles of two periods (Normal and reverse) which alternate the polarity of the electrodes. This polarity reversal prevents scale formation on the electrodes.



Thus, a production cycle is broken down into 4 stages:

1. Stage 1, normal production (positive)
2. Stage 2, standby
3. Stage 3, reverse mode production (negative)
4. Stage 4, standby

At the end of a filtration period, the **Zelia VP** stops being produced and, when the filtration begins again, it resumes its cycle at its exact point of interruption.

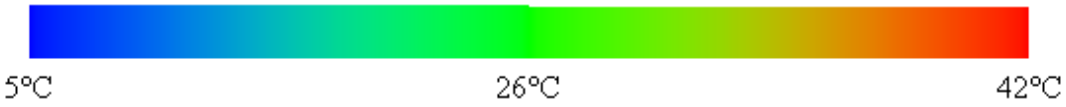
The main advantage of this choice of operation is to guarantee in all cases (even in the event of a power failure) strictly identical normal or reverse production times and, consequently, to ensure the less possible scale formation on the cell (commitment of production quality and longevity of the material).

3.2. Presentation of the Zelia VP

CCEI has developed light electrolysis. ZELIA's compact and light salt electrolyser is fitted with a transparent cell whose color varies according to the salinity and water temperature of the pool (patented method).

When users open their technical room, they know the status of their treatment device straight away and are assured about the water quality:

- Production in shut down mode, color according to the water temperature



- Production in operating mode, color according to the salinity

Efficient and optimum production - according to water temperature - reduced when the automatic cover is closed - 8 production modes

Compact and resistant monobloc cell - fitted with complete titanium plates.

Compact to fit into the most confined technical rooms.

Self-cleaning cell by polarity reversal.

Increased safety by in-built flow detection.

Is assembled in just a few minutes, easy connection with connector.

Specially adapted to underground technical rooms.

In temperature controlled mode, the production period is adapted **according to the temperature**.

4. Installation

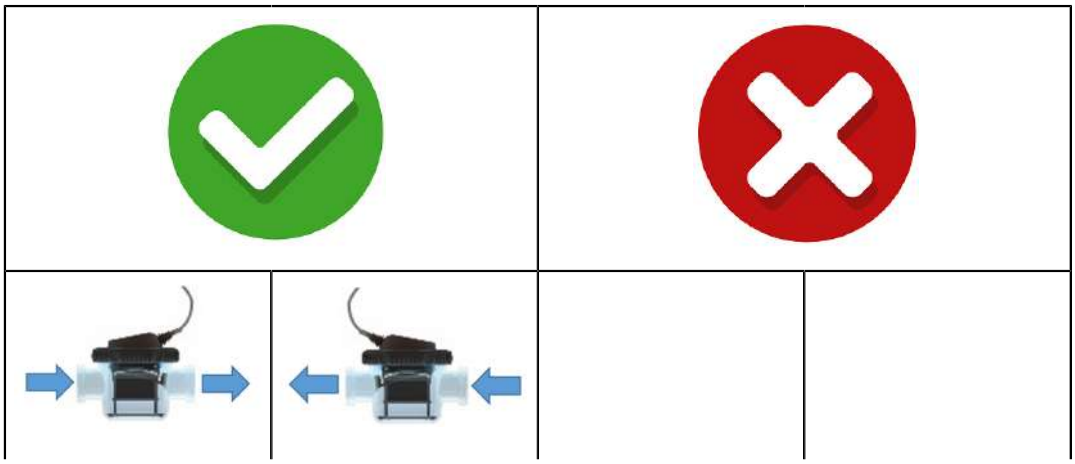
4.1. Hydraulic installation

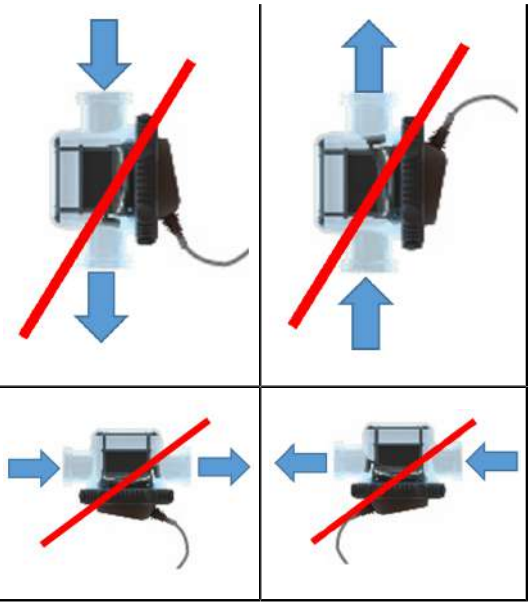
The cell of the Zelia VP must not be splashed with large amounts of water on a regular basis. When technical blocks are integrated and/or buried, we recommend you do not install it under a skimmer, these regularly overflow when people are in the pool.

The ZELIA VP is installed on a conduit with a diameter of 50mm, using the provided union fittings. It is installed subsequent to filtration (after the filter). It can be placed both horizontally and vertically.

A bypass installation is favored (essential beyond 22m3/h) so that the flow in the cell can be controlled and the cell can be dismounted without interrupting the filtration.

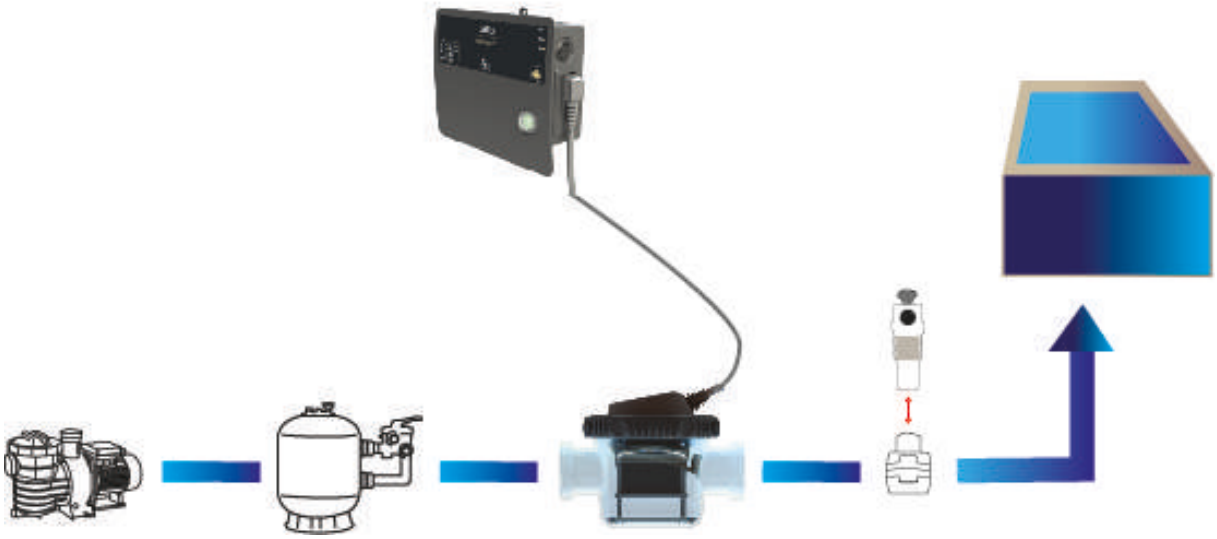
The ZELIA VP cell is designed to be installed on a horizontal pipe only, with the control interface on top. It should not be installed on a vertical pipe.



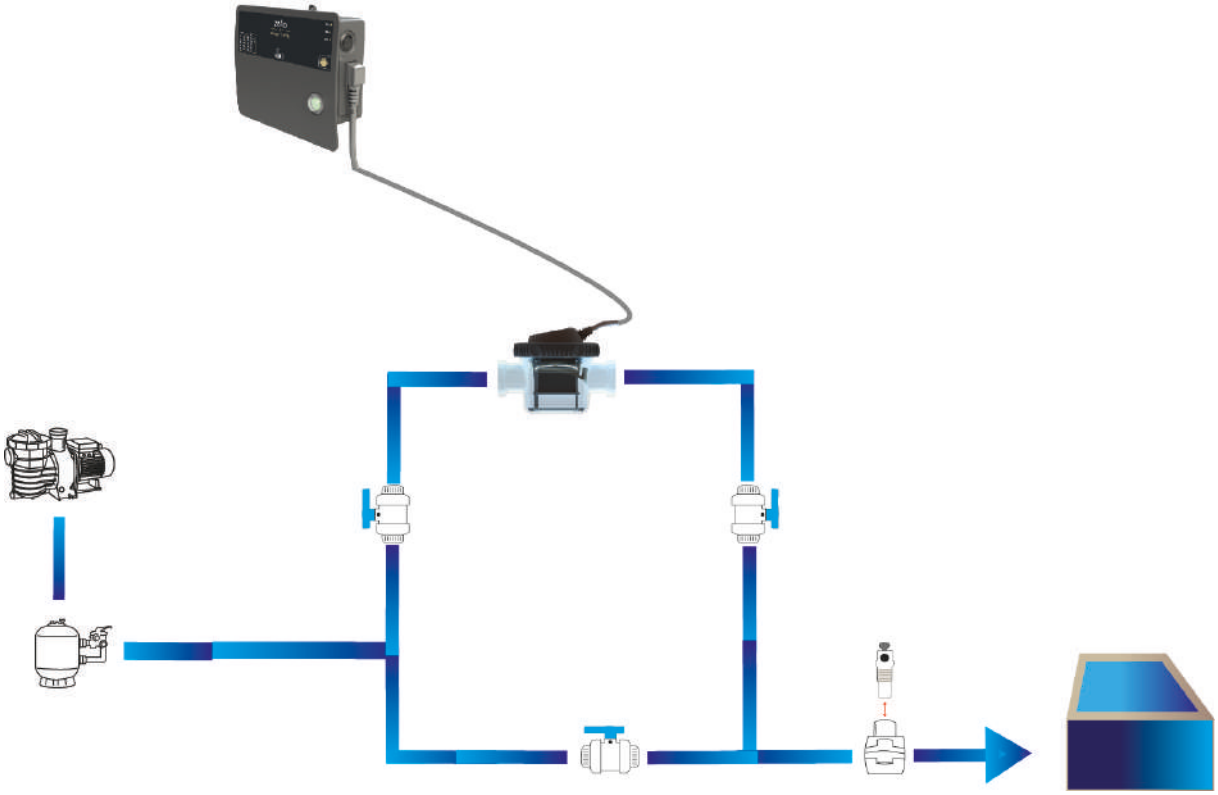


Pay particular attention to the direction of water flow, to ensure that the device detects the flow correctly!

4.1.1. Linear installation



4.1.2. Bypass installation



4.2. Electrical connection

Installation of this project involves a hazard of electric shocks. We strongly recommend you contract a professional installer. Incorrect installation puts you in danger and may irreversibly damage the product and the equipment connected to it.

For reasons of safety and in accordance with the standard NF C15-100, the supply box of the ZELIA VP must be installed

- **either more than 3.5 m away from the edge of the pool. This distance is measured taking into account any workaround of obstacles. If the supply box of the ZELIA VP is installed behind a wall, this therefore concerns the distance required to go round it and reach the box.**
- **or in an underground room in close proximity to the pool. In this case, the room must be accessible by a trap door which requires the use of a tool to be opened.**

The box resists projected water but must not be placed in any place liable to flooding. To maintain its water-tightness, the 4 screws on the front must be tightly fastened. The supply box of the ZELIA VP must be placed on a flat and stable platform and attached to the wall using the provided pegs and screws.

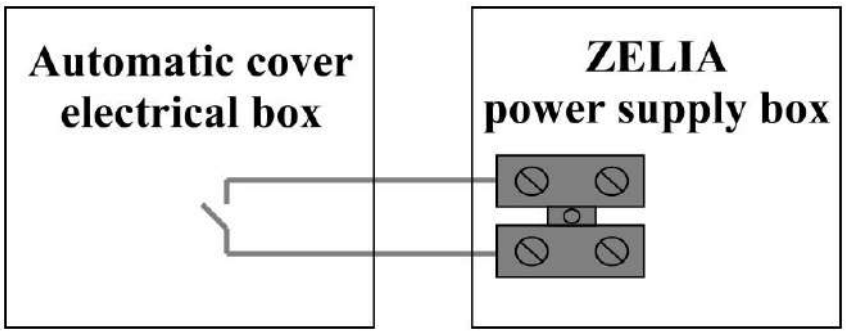
4.2.1. Supply

The supply box comes with a cable measuring 2m, pre-fitted with an european 2P+Tamerican plug. It must be powered using 120V or 230V single phase current with 50Hz or 60Hz, and protected by a 30mA differential device (ground fault circuit interrupter (GFCI)), capable of providing a sufficient intensity (15A). The cable section used for the supply must be suitable and functional over its entire length.

The supply must be permanent and must under no circumstances be controlled by the pool filtration pump.

4.2.2. Cover (or Redox analyzer) dry contact input

The cover dry contact should be a potential-free contact switch. A connection error may seriously damage the device.



4.2.3. Cell connection

Connect the cell to the side connector and secure it using the metal clip.

5. Commissioning

Only regular analysis enables the device configuration to be adapted.

Carefully follow the stages below for the start-up process to run smoothly.

The chemical products used in pools are highly corrosive and can adversely affect your health and the environment.

These products should be handled with care and stored in suitable rooms.

5.1. Stabilizing agent

Chlorine is a gas at ambient temperature. Its solid form (tablets, granules, etc.) is obtained by association with a cyanuric acid molecule. This cyanuric acid acts as a stabilizing agent as it protects the chlorine from the damaging UV rays of the sun. On the other hand, this cyanuric acid is not consumed and amasses inexorably in pools treated with chlorine tablets and ends up inhibiting the potential of the chlorine. For public pools, the maximum concentration of cyanuric acid is set at 80 ppm (or mg/l). The treatment of salt by electrolysis prevents this overdosing of cyanuric acid; however, it may be useful to add between 25 and 50 ppm (or mg/l) of stabilizing agent when the pool is highly exposed to the sun and when the chlorine concentration is insufficient. Indeed, in very sunny conditions, 90% of the free chlorine is destroyed in two to three hours in the absence of cyanuric acid while this proportion falls to 15% with 30 ppm of stabilizing agent (cyanuric acid).

5.2. Controlling the salt rate

ZELIA VP is designed to operate with a water conductivity that corresponds to a concentration of salt between 1.5g/l and 3.5g/l at 25°C.

To accurately control the salt rate of your pool, we recommend that you use a conductivity tester. This instrument is very easy to use and provides a direct reading of the salt rate in g/l. There are also analysis tabs which can effectively control the salt concentration of your water.

When the salinity is unsuitable, ZELIA VP suspends production in the event of too much or too little salt. If any of these faults are displayed, the first thing to check is that the cell is in a good condition; then make any necessary corrections to the pool water.

The water conductivity is proportional to salinity, but also depends on the temperature at a rate of 2.2% per degree Celsius.

Salinity (in g/l)	10°C	15°C	20°C	25°C	30°C	35°C	40°C
Minimum	2,3	2,1	1,8	1,5	1,2	1,0	0,7
Ideal	4,2	3,8	3,4	3	2,6	2,2	1,8
Maxi	5,2	4,6	4,1	3,5	3,0	2,4	1,9

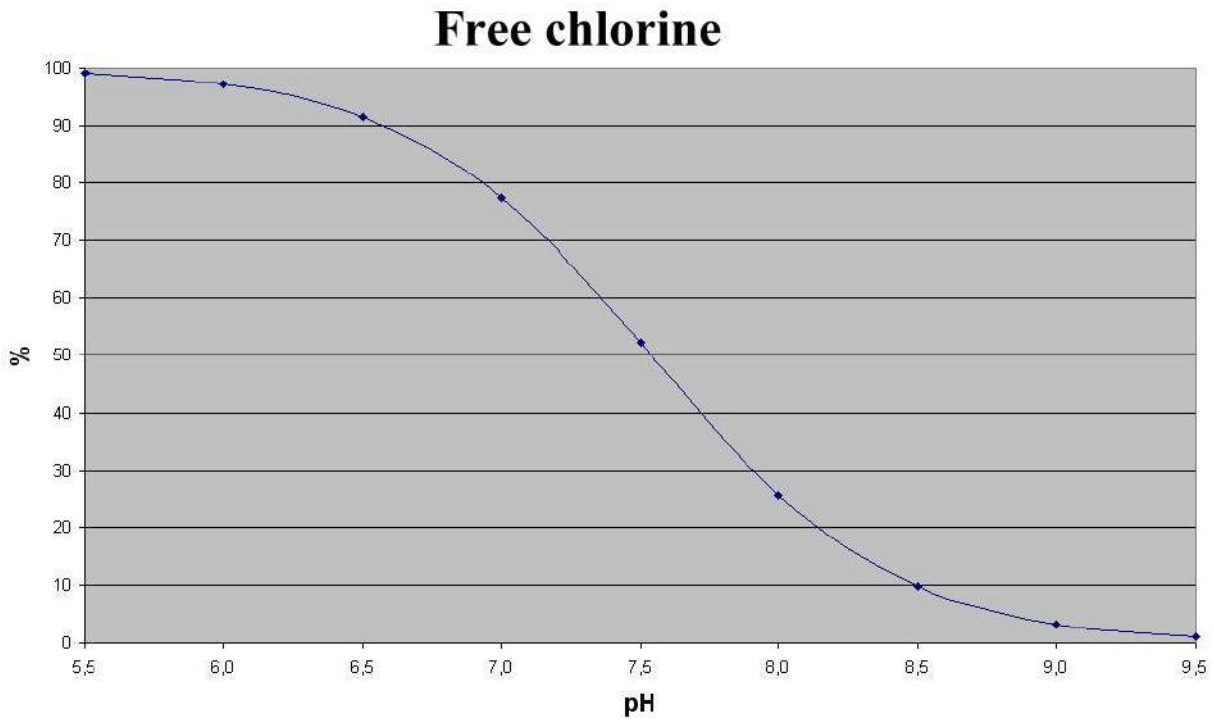
At 35°C, the max. salt rate therefore goes from 3,5g/l to *2,4g/l*.

5.3. Controlling the TAS/TH

At the time of installation, you are advised to test the TAS (Total Alkali Strength) and/or the TH (Total Hardness) of the pool water, or arrange for them to be tested by a specialist. The two measurements are generally close and are more often than not expressed in French degrees (°F). If the TAS and TH are different, use the average value of these two measurements. It is important to note that very soft water (TAS/TH < 10°F) has the advantage that scale can be prevented but, on the other hand, it is highly corrosive and its pH is very unstable. Conversely, very hard water (> 35°F) has a pH which is very difficult to correct, and it is very irritating to the skin and causes scale formation quickly on the installations. In extreme cases, you are therefore recommended to correct the TAS and TH by using suitable chemical products.

5.4. Controlling the pH

The pH or Hydrogen potential measures the degree of acidity of the water. Its value is between 0 and 14. A solution with a pH of 7 is neutral. If it is lower than 7, the solution is said to be an acid and if it is greater, the solution is said to be a base or alkaline. For the comfort of swimmers, the effectiveness of the treatment and reliability of the installation, the pH of the pool water must be maintained at about 7. It is generally thought that a pH between 6.8 and 7.4 is ideal. Excessively acidic water (pH < 6.8) attacks mucus membranes, corrodes metals and can damage plastics. Excessively basic water (pH > 7.4) can also be aggressive (caustic) and considerably reduces the effectiveness of the chlorine. Therefore, when the pH goes from 7.2 to 8.2, the percentage of active chlorine goes from 70% to 20%.



To achieve maximum efficiency from the ZELIA VP , the pH of the water should be maintained between 7.0 and 7.4.

As the water temperature varies during the season, the production time should be adjusted accordingly. This adjustment of the production according to the temperature is carried out automatically by the ZELIA VP in AUTO production mode.

6. Operation

6.1. Supply

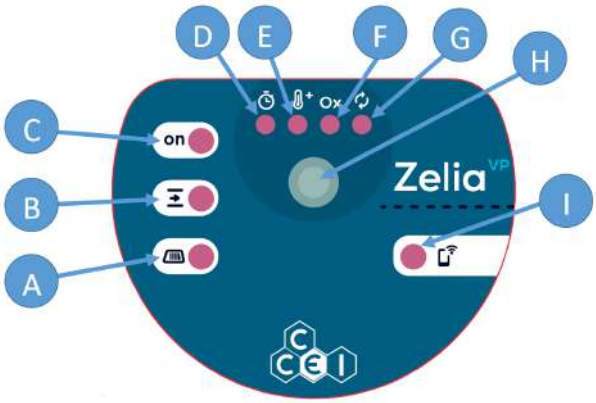
On the supply box, a switch powers on the electrolyser. When the supply is powered on, this switch is lit.

If an automatic cover dry contact is connected to the box, the switch present on the side of the box should be in EXT position to enable detection. It is still possible to flip the switch to 100% to disregard the tank cover information and force nominal production, or even to 25% to divide the production by 4 regardless of the status of the shutter.

If the dry contact is not connected, it is possible to indicate that the tank is covered by switching to the position "25%". The switch must then be flipped back by hand to "100%" to return to normal operation.

6.2. Control interface

The interface consists of a 2-digit multi-function display (temperature, programming, parameters, etc.) of 3 indicators and 3 buttons



Repère	Elément	Description
A		**"COVER"/"REDOX STATUS"** : This indicator lights up when the cover (or the RedOx servo contact) is closed (or when the 3-position changeover switch on the power supply unit is in the "25%" position) Off if the cover is open (or if the Redox analyzer dry contact is open) Flashing if detection is in progress (delay) Permanently on if the cover is closed (or if the Redox analyzer dry contact is closed)
B		"FLOW" Off if the flow is not detected Flashing if the flow detection is in progress (delay) Permanently on if the flow is detected
C		"PRODUCTION" Off if the production is not in operating mode Flashing if the production is in standby mode, or if the cycle has ended, before the next cycle Permanently on if production is in progress
D		**Programmed"** : This indicator lights up when the program mode (= clock) is active
E		**"Auto"** : This indicator lights up when the auto (= temperature controlled) mode is active
F		**Regulated"** : This indicator lights up when the Regulated (= ORP slave) mode is active
G		**"Shock"** : This indicator lights up when the shock mode (= BOOST) is active
H		**Multi-function button** : Depending on the context, this key allows • select the Vigipoool "Central" device. • select the operating mode (Prog, Auto, Regulated, Shock). • to accept the pairing of a new device.
I		**"CONNEXION"** Flashes blue: Waiting for Bluetooth connection. Lit steady blue: A smartphone is connected via Bluetooth Fixed green light: Connected to WiFi or to the Vigipool "Central" device

6.3. Compatible with the Vigipool product range

vigipool	The **ZELIA VP** is compatible with all devices part of the Vigipool product range. The Vigipool product range brings together numerous interconnected water treatment and maintenance devices that can be controlled by a single application: Vigipool. The devices wirelessly exchange various information measured and actions taken with each other via a proprietary connection between the devices. Various devices are available (electrical filtration box, LED control, pH regulation, connected pH / ORP analyser, remote touch display, etc.).

6.3.1. Bluetooth® and Wifi control

The **ZELIA VP** has an embedded Bluetooth® and Wifi transmitter used to control your device from a smartphone or tablet. To be able to control the **ZELIA VP** , you need an iOs (Apple®) or Android smartphone or tablet running Bluetooth® Low Energy (v4.x) or Wifi 802.11 b/n/g. Other operating systems (Windows Phone®,...) or devices not running the above-mentioned prerequisites **are not supported**.

For a Wifi connection, the local Wifi details (SSID and password) need to be entered and a Vigipool account created to connect your **ZELIA VP** to the Wifi router and control your Meteor2 using the local Wifi and remotely. (see attached specific "Vigipool World" leaflet)

Please note: only 2.4GHz Wi-Fi networks are compatible with the ZELIA VP . 5GHz networks are not supported.

6.4. Choice of the Vigipool "central unit" appliance

Please refer to the attached ''Vigipool World'' page for more information

, the multi-colour LED (**C**) flashes white. This corresponds to the choice of the appliance that will perform the Vigipool "central unit" function (see attached specific "Vigipool World" page):

- If the installation only has this appliance, press the selection button (**A**). The appliance is then configured as a Vigipool "central unit" and other appliances can be added to the installation later.
- If the installation has several Vigipool World compatible appliances
  - If an appliance is already configured as a Vigipool "central unit", press the button on the Vigipool "central unit" if it has been powered on for more than one minute. (If it has been powered on for less than a minute, there is no need to press its button). Your ZELIA VP then connects to the Vigipool "central unit": It stops flashing white and switches to normal operation.
  - If no other appliance is already configured as a Vigipool "central unit", turn on all the appliances and press the button on the appliance you want to use as a Vigipool "central unit". The other products will then connect to the appliance you have validated as the Vigipool "central unit", they stop flashing white and switch to normal operation mode.

If you want to change the Vigipool ''central unit'' appliance, the system must be reset (see ''Resetting to zero'')

6.5. iOs / Android applications

To download the Vigipool application,click here [https://qrstud.io/2ugieka] or scan the QR CODE below. You can also search for Vigipool in the App Store or Play Store search engine:

6.6. Operating modes

3 operating modes can be selected, plus a shock mode: The indicator corresponding to the current mode is permanently lit. The programme is selected by pressing the (**H**) key. The user has 5 seconds to select the desired programme (the programme light flashes during this time) by using (**H**). The operating mode can also be selected from the application.

If none of the lights [(**D**), (**E**) ou (**F**)] are lit, the chlorinator is in Off mode (no production).

To switch to Off mode from the unit itself, press and hold the (**H**) key.

6.6.1. Programmed mode

The "Programmed" mode is similar to a clock mode. The daily operating time of **ZELIA VP** is then fixed and repeated every day. This time, which is factory preset to 8 hours per day, can be changed from the application (Daily production time). The filtration time must be sufficient for **ZELIA VP** to produce the programmed time.	

6.6.2. Auto Mode

The "Auto" mode is a temperature-controlled mode: the daily operating time is modulated according to the water temperature. **ZELIA VP** then uses the programmed time* and will increase this time if the water is hot and reduce it if the water is cold. *The programmed time corresponds to the desired production time at a temperature of 25°C. This time, which is factory preset to 8 hours per day, can be changed from the application (Daily production time). The filtration time must be sufficient for **ZELIA VP** to produce the calculated time.	

6.6.3. Regulated Mode

In order to use this operating mode, you must be equipped with a Vigipool device that measures the Oxidation Reduction Potential of the water (ORP / Redox). For example, the following products are compatible with the use of this mode: Ofix, Meteor2 + Antea-M2+ ORP kit, etc.

The "Regulated" mode allows chlorine to be produced only when it is needed: the operation of the chlorinator is then dependent on an ORP setpoint. **ZELIA VP** will therefore only produce chlorine if the ORP measurement is lower than the programmed setpoint. This setpoint, factory preset to 650mV, can be changed from the application (Setpoint). The filtration time must be sufficient for **ZELIA VP** to produce enough and reach the desired set point.	

6.6.4. Shock Mode

The "Shock" mode allows you to produce continuously for a specific duration at a higher power. **ZELIA VP** will produce chlorine regardless of the programmed time (daily production time), the temperature or any eventual ORP measurement during the shock treatment. This time, which is factory preset to 24 hours, can be changed in the application (Shock treatment time). The filtration time must be 24 hours a day for the duration of the shock mode for the **ZELIA VP** to be able to operate.	

At the end of the Shock treatment duration, it returns to the previously selected mode.

When Shock mode is selected, the previous mode indicator is also lit to remind you of the mode to which ZELIA VP will return after Shock.

6.7. Low temperature

The need for disinfectant decreases sharply as the water temperature drops. In order to avoid unnecessary wear and tear on the chlorinator cell, the appliance stops producing when the water temperature remains below a minimum temperature for more than 24 hours.

This temperature, factory preset at 12°C, can be adjusted from the application (Min temperature)

When **ZELIA VP** enters this wintering mode, the cell emits cyan flashes and a notification is generated by the application.

6.8. Automatic cover

If the ZELIA VP is connected to your automatic cover, it detects when the cover is closed, activates the light and will reduce the scheduled chlorine production time in the Programmed and Auto operating modes. This feature reduces the risk of high chlorine accumulation.

If an automatic cover contact is connected to the enclosure, the switch on the side of the enclosure must be in the EXT position to allow detection. It is still possible to set the switch to 100% to override the pool coverage information and force nominal production, or even to set it to 25% to reduce production regardless of the damper status.

If the contact is not connected, it is possible to indicate that the pool is covered by switching to the "25%" position. The switch must then be manually flipped back to "100%" to restore normal operation.

6.9. Water hardness

In order to optimise the life of the cell, it is necessary to specify the hardness of the water to be treated to the device. Thus the appliance will automatically calculate the optimal duration of the polarity inversion cycles to achieve the best compromise self-

cleaning / life span. The hydrotimetric titre (H.T.) is an indicator of the mineralization of the water and is expressed in degrees French (°f). This value is communicated by the water supplier, the network manager or the town or city hall of the place of installation. It can also and preferably be measured by a specialist.

HT (°f)	0 to 7	7 to 12	12 to 20	20 to 30	30 to 40	> 40
Water	Very soft	Soft	Quite soft	Quite hard	Hard	Very hard

6.10. Production level

The produced chlorine quantity is limited by the daily filtration time (as the salt chlorinator runs together with the filtering pump thanks to its flow switch). In case of a lack of chlorine it is first necessary to check the daily filtration time. It is also possible to change the production level. Reducing the production level if it is too high (for small pools i.e...) will increase the lifespan of the cell. Rising this level will increase the chlorine production but decrease the lifespan of the cell.

Factory preset at 100%, this parameter can be adjusted *via* the application (Power). In shock mode, the power is automatically increased to 125% by the device. At the end of the shock mode, the power output returns to normal.

In order to optimise the life of your chlorinator cell, it is advisable to limit the use of >100% production power.

6.11. Error messages

The ZELIA VP provides users with indications whereby potential faults can be prevented or assessed. Messages are then displayed in the application or via a notification. The cell then produces coloured flashes, described below:

Cell flashes	Description	Resolution
Orange	Internal error (communication fault between the two integrated cards)	Check the connection of the canvas between the 2 cards, inside the cell
Light blue	Internal overheating (>85°C)	Allow the cell to cool down or install the cell in a cooler place
Violet	Water temperature measurement error	Check the connection of the temperature sensor inside the cell
Red	Excessively low current/lack of salt	Check the salt rate Remove scale from the cell using diluted acid Add salt after the requirement has been confirmed. Refer to the section on electrolysis. This fault can easily result in the punctual presence of air in the cell, after the filtration pump has been unprimed or air has entered the circuit.
Blue	Excessively high current/too much salt	Check the salt rate Renew the water part. Refer to the section on electrolysis.
White	Temperature < 12°C	This is not a failure. Please refer to "Low temperature".

*Check the salt level before adding salt to the pool and add salt if the level is really low.

6.12. Factory reset

It may be necessary to reset the ZELIA VP . To do so:

1. Cut the power of the electrolyser via the ON/OFF button present on the power box.
2. Wait for about 30 seconds,
3. Press the button **(H)** and keep it held down,

4. Turn the electrolyser back on via the ON/OFF button on the power box.
5. Wait until all lights flash together twice,
6. Release the button. **All parameters are reset to factory settings.**

Performing a reset will erase all the parameters in memory (Wi-Fi configuration, pairing of phones and other devices in the Vigipool Product Range, etc.). It is therefore necessary to repeat the setup procedure after a reset.

7. Maintenance

7.1. Addition of salt

When the salt level falls below 2g/l, salt must be re-added to the tank.

The use of specially treated salt which contains stabilizing agents is recommended for the pool. The effectiveness of the electrolyser will be significantly improved by it.

At the start of the season, we recommend that you check the salt rate and make sure it reaches 3g/l. According to the measured salt rate, the amounts of salt to be added are as follows:

Weight of salt to add **(in kg)** to reach 3g/l:

Measured rate/Tank vol.	20m3	40m3	60m3
1,5 g/l	30	*60*	90
2 g/l	20	40	60
2,5 g/l	10	20	30

For example, if the measured salt rate is 1.5g/l, 60 kg of salt should be added to reach a rate of 3g/l in a tank of 40m3

7.2. During winter

In winter, weather permitting, the treatment can be maintained by considerably reducing the frequency. A filtration cycle of 8 hours every fortnight is enough in most cases.

However, it is essential to monitor the salt rate to keep the cell from functioning in water that contains too little salt (<2g/l).

If tarpaulin or a cover is used, the chlorine is protected from UV rays and the chlorine requirement is reduced. In Automatic mode and when the cover contact point is connected, ZELIA VP automatically reduces production.

7.3. Cleaning the cell

When the indicated production is low despite the correct salt rate, the status of the cell should be checked; if there is visible scale on the plates, the cell should be cleaned. To clean the cell, one end should be blocked and diluted acid should be poured in (10% HCI recommended). Allow the acid to act over several hours. This operation must be carried out with the greatest of care and it must follow the instructions set out for the use of the acid.

	A specially adapted cleaning cap is available from your dealer. Ref. : PF10I190

A video showing the cell being cleaned is available: click here [https://www.youtube.com/watch?v=au0isvpQzFE]

A. Declaration of conformity

CCEI S.A.S (FR 47 40 35 21 693) declares that the ZELIA VP product meets the safety and electromagnetic compatibility requirements of European directives 2014/35/EU and 2014/30/EU.
CE  Emmanuel Baret Marseilles, on
Distributor's stamp
Date of sale: . . . . . Batch N°: . . . . . .