DA-GEN® Dryden Aqua Generator

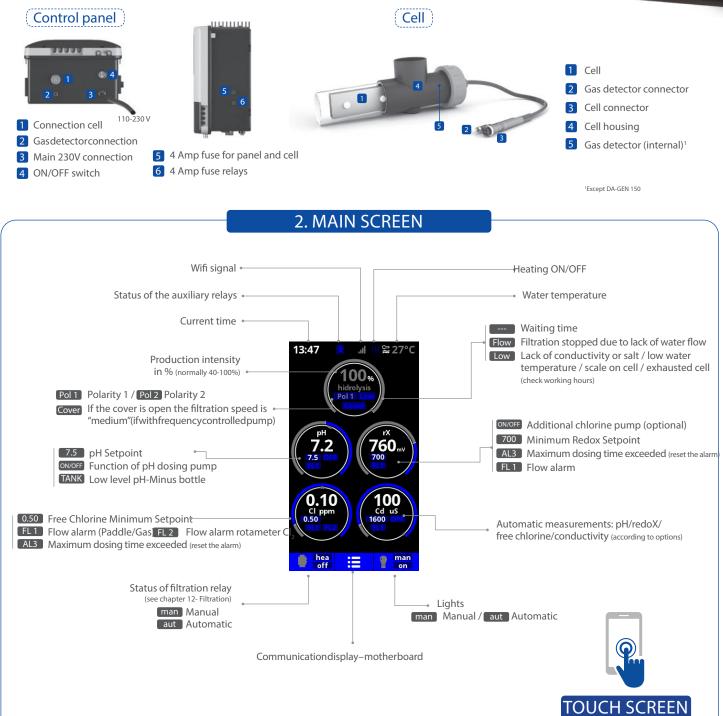
USER MANUAL

1. DESCRIPTION

DA-Gen is a traditional salt electrolyze unit, working by splitting NaCL into Na and CL. By this, chlorine is added to the pool water as main disinfectant. Furthermore, free radicals are produced, which supports the chlorine in killing bacteria. The level of chlorine in the pool water is adjustable to the level the user decides and to the level demanded from the standards demanded from the authorities. The unit should be specified to fit the size of the pool, in order to be able to produce sufficient amount of chlorine.

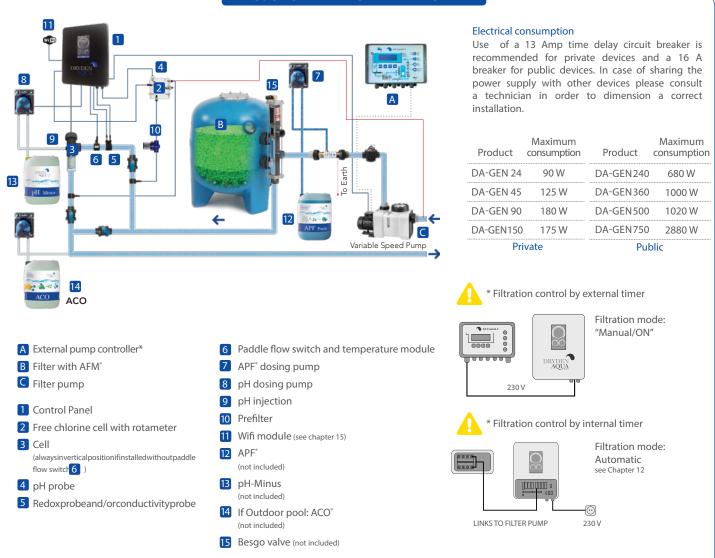
The content of NaCL in the pool water has influence on the production capacity of the unit. Recommended level is between 2000 – 4000 TDS. The volume of the pool and the TDS will specify the size of the unit. By this, the unit can produce any level of chlorine demanded by user. The specification of the unit can be provided of the distributor of the unit. Hydrogen can be lead away from the unit by installing a pipe connection to outside air.

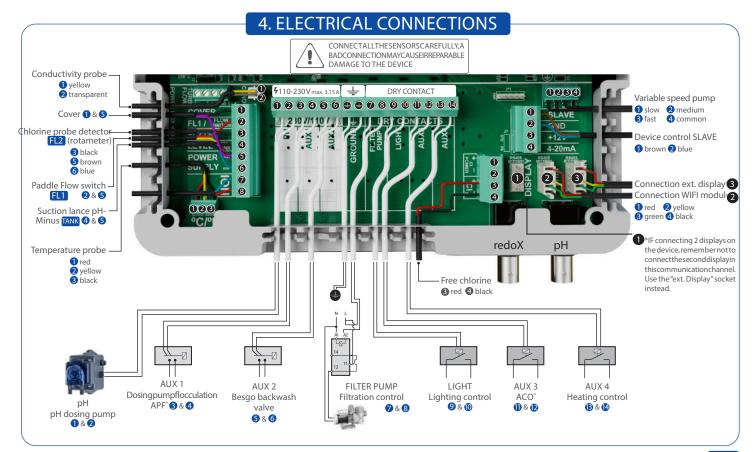




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3. SYSTEM INSTALLATION





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5. WATER PARAMETERS

The following values should be checked:

On a daily basis: • pH* Total, Free and combined chlorine* (* = According to DS477)

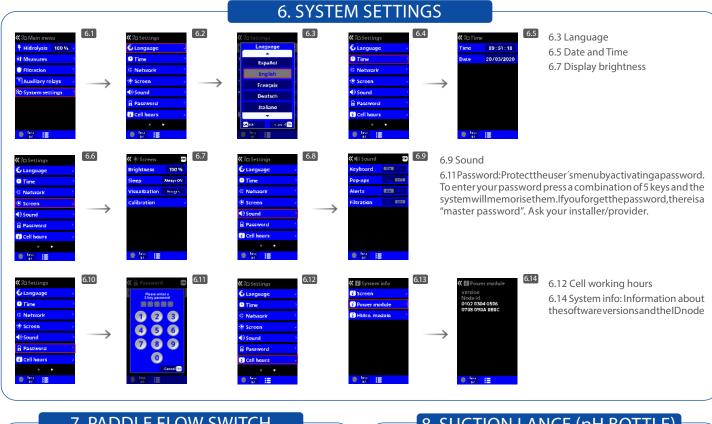
On a weekly basis: Alkalinity. Recommended Level: 100-200ppm

Salt level (NaCl) : According to the decided level in the pool

Recommended TDS level is between 2000 – 4000 ppm The volume of the pool and the TDS will specify the size of the unit to be used.

It is recommended to check and adjust the TDS value once a week.

The only chemical needed for operations of the unit is NaCl.



7. PADDLE FLOW SWITCH

Paddle flow switch. Stops the chlorine production and the dosing pumps if there is no water flow.



8. SUCTION LANCE (pH BOTTLE)

Connect the suction lance. The installer/ provider should be contacted to activate the sensor.

pH-Minus bottle level TANK **A**&6

6

0

6

6

FL2 / CI

9.1

9.1 Hydrolysis: Programming of hydrolysis functions

9. HYDROLYSIS

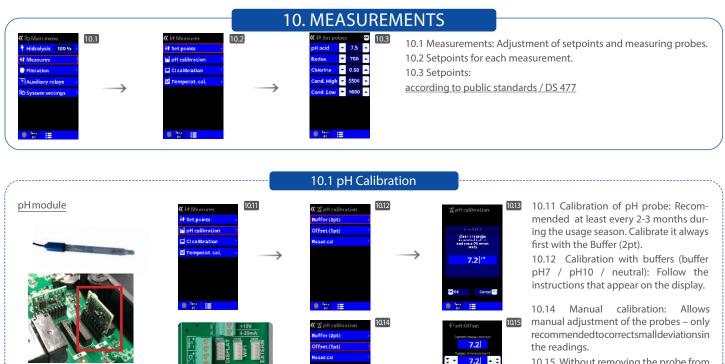


9.2 Level: Hydrolysis - Desired disinfection production (Always 100%). Boost has no effect, leave as off.

3



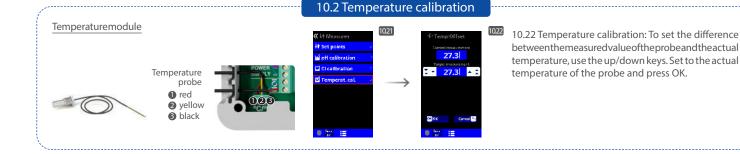
9.3 Mode: If the device has Free Chlorine and redox probes, choose the parameter that controls the cell's chlorine generation.



Checkifthechipispluggedin correctlyandifthegreenLED is blinking. (PH/RX label on the left side)



10.15 Without removing the probe from the water, use the up/down arrows to adjust the reading so it matches your reference value (photometer or other measurement).



10.3 Free Chlorine calibration Free Chlorine control to have a free chlorine level of at least 0.5 ppm free chlorine! 1031 1032 1033 Recommended every month. 0.10 Free Chlorine probe appear in the display. 8 red 4 black 10.34 10.35 reading is close to 0. Press OK 6460 Chlorine probe detector (3) black FL2 (rotameter) 6 brow 0.10 reading. Press OK. 6 blue 0 If using a Variable Speed Pump, calibrate the probe using the lowest filtration speed. 10.37 10.38 1036 0.10 Check if the chip is witon operado colori. Provotte ₹ = <mark>0.10|</mark>*...+ , pluggedincorrectly 0.10Ľ andifthegreenLED is blinking (CL label facing down)

Let the system run 24 hours before calibrating and make sure

10.31 Calibration of the Free Chlorine probe:

10.32 Calibration with buffer (photometer DPD1): Follow the instructions in 7 steps that

10.33 Step 1 of 7 - Calibrate Cl at 0 ppm (offset): Close the water flow through the probe and wait for 5 to 60 min until the

10.34 Step 3 of 7 - Calibrate Cl: Set the water flow to the correct rate of 80-100 litres/hour. Wait for 1 to 10 min until there is a stable ppm

10.35 Step 5 of 7 - Establish the real ppm values with the up/down keys according to your DPD1 (free chlorine) value. Press OK. 10.36 Step 7 of 7 - If this screen is not shown repeat the calibration process.

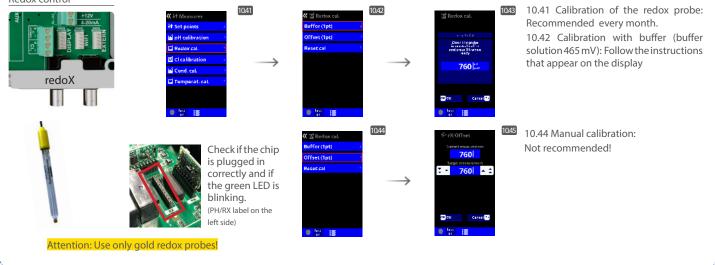
10.38 Manual calibration: Open the water flow and set the flowmeter (rotameter) to the correct flowrate (50-100l/h). Wait until the current level is stable. Set the chlorine level with the up/down keys, manually (use a manual DPD1 test kit). Press OK when value is correct.

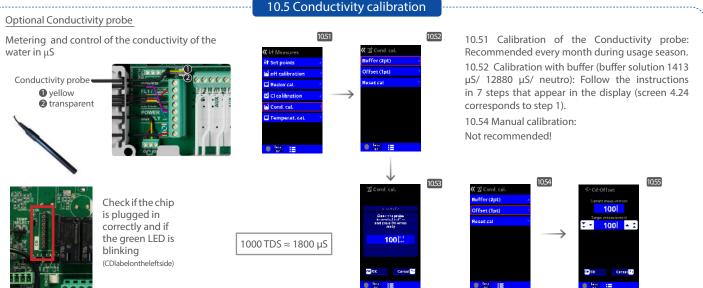


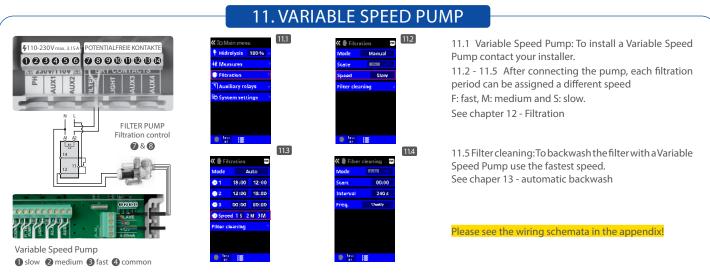
10.4 Redox Calibration

The redox value shows the oxidation/reduction potential and is used to determine the sterility of the water. Adjusting the ideal redox level (setpoint) is the last step in the system start up sequence.

Redox control







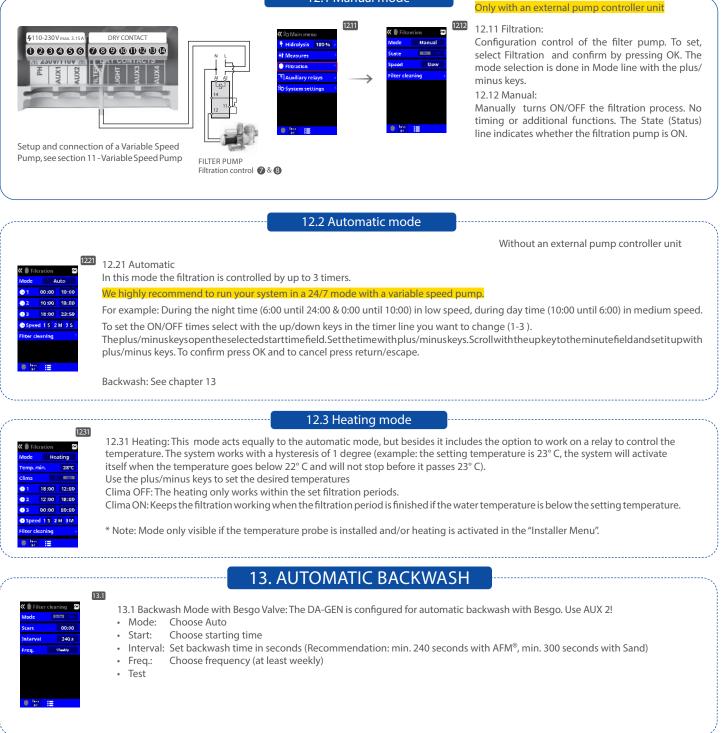
5

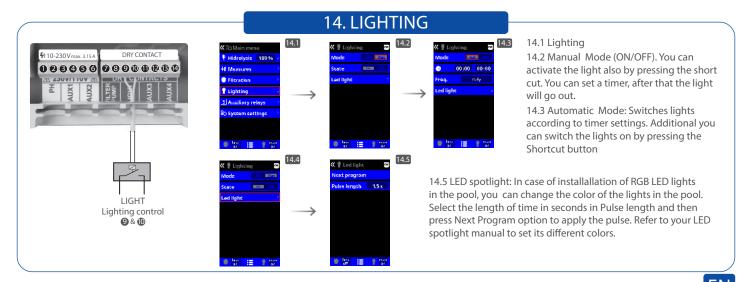
• 🐨 😑

ΕN

12. FILTRATION

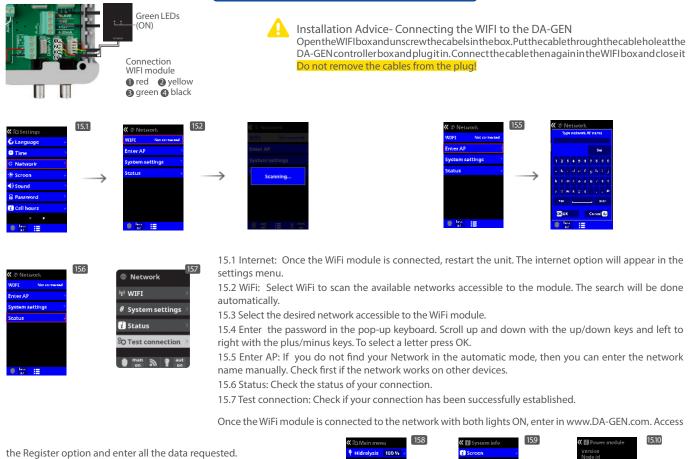
12.1 Manual mode





6

15. WIFI SETTINGS

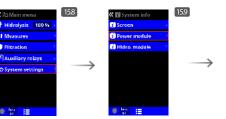


15 10 15 12 The system node ID that you will need for the

15.10 - 15.13 The system node ID that you will need for the registration progress is located under System settings > System info > Power module

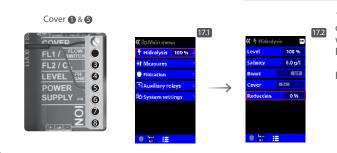
Uponcompletion of the process, you will have total control of your pool, will be able change parameters such as set points, filtration hours and turn ON/OFF any auxiliary relays.

Attention: If the DA-GEN was once registered at vistapool.com it needs to be removed there by the manufacturer before you can register it at DA-GEN.com. Please contact your dealer.









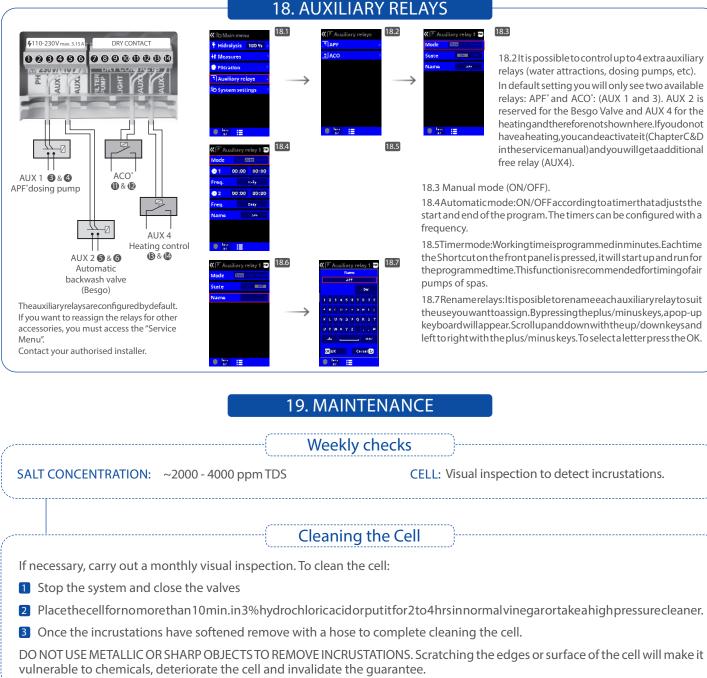
17. COVER

7

17.1 Cover: If the DA-GEN is runned with a frequency controlled pump and if it is connected to the pool cover, the filtration speed will automaticly go to «medium» when the cover is opened. (Please check the filtration speed in Chapter E). Set the Reduction value to 0%!

How to install: If the cover is open, the contact has to be closed and vice versa

18. AUXILIARY RELAYS



General maintenance

The pool must be vacuumed as usual and the skimmers emptied whenever necessary.

2 FILTER BACKWASHING: At least once a week for 4 to 5 minutes. VERYIMPORTANT: Makesure the cell is off while cleaning the filter. If the system controls the filtration pump, use the option "backwash" of the programmed filtration of the programmed filtration pump. mode. See chapter 13 - automatic backwash

3 Check regularly the level of your pH and APF[®] bottle to prevent the dosing pump from running dry.

4 pH/Redox/Conductivity-probes:Theprobesmustbecleanedandrecalibratedevery2to3months.Tocleantheprobeinsertin electrode cleaner. After each clean the probes must be re-calibrated. Attention: the probes should never dry out and must be kept wet if stored (when emptying the pool for winterising, make sure to store the probe head in water).

8

20. TROUBLESHOOTING

Blank display	Excess of chlorine in the water
 Check if ON/OFF switch is illuminated. Check the connection wire between display and motherboard. Check the 3.15 A fuse of the device – it could have tripped due to overload. Check the power supply – 230V/50Hz. If the problem persists contact TECHNICAL SERVICE 	 Lower hydrolysis cell intensity. If your system includes automatic Redox control, check the Redo setpoint value. Reduce it by 50 to 100 mV. Ifyoursystemincludesfreechlorinemeasurment, adjust the setpoint value. Check redox probe and calibrate it if necessary. Check the free chlorine probe and calibrate it.
	Cell incrusted in less than 1 month
 Low water temperature. Check the salt concentration (TDS) in water. Check the cell status (it may be incrusted or calcified). Clean the cell according to the instructions in section 19. Checkthatthecellisnotwornout(rememberthatthecellisguaranteedfor 5,000 hours, approx. 2-3 years of summer usage). 	 Very hard waters with a high pH and total alkalinity: balance wate adjusting pH and total alkalinity. Checktoensurethatthesystemautomaticallychangespolarityapproximate every 300 minutes. Consultwithourtechnicalservicetoconsideracceleratingthepolaritychang (auto-cleaning).WARNING:Acceleratingthepolaritychangedecreasesthece life (5,000 hours) proportionally. Don't go below 200 minutes! Ifthecrustisnotfoamingwhenincontactwithacid,itmightbeStruvite.Inth case do not use anymore MgCl₂, use only NaCl.
Free chlorine level doesn't reach the setpoint	Alarm AL3 and pH dosing pump stopped
 Increase the filtration hours to 24 hours Increase the hydrolysis level (to 100%). Increase the salt concentraion (TDS) in the water. In an outdoor pool: Add ACO* to the water. Check if the reagents in test kit are in date. Check if the temperature or number of users has risen. If you want a higher chlorine level you have to increase the salt concentration. Attention: Higher risk of corrosion! 	 The maximum dosing time (standard 999 min.) is accomplished and th pH-Minus dosing pump stops in order to avoid the acidification of th water. Delete the message and restart the metering. Do the followin verifications in order to preclude errors on the device: Verify if the p probe reading is correct (if not, calibrate the probe or substitute it wit a new one); Verify if the acid/base reservoir is full and if the dosing pump.
	Rust on metallic components in the pool
Check gas and paddle flow detector cable. Clean for incrustations of the paddle flow detector at the top of the cell housing. Check to see if system is free of air (gas detector must always be submerged).	 Metallic elements lack standardised earth connection. Contact a electrician to solve the problem. Rusted components are not stainless steel (minimum 316/V4A/1.4571 The salt concentration (TDS) is too high. Attention Stainless Steel parts must be cleaned regularly
Polarity 1 reaches maximum intensity, but polarit	y 2 (auto clean) does not reach maximum intensity
If the salt concentration is correct : The cell is reaching its end of life. As of th	<u></u>

Dosing pump is not working properly

- Check fuse on the right side of the dosing pump
- Check (and change) the dosing speed
- Check electrical connections
- Check tubes and fittings for leaks

- Check if injection valve is blocked
 - Check if suction lance/suction weight is blocked
 - Check if error message «TANK» appears. If yes replace bottle, if not check the polarity of the suction lance or replace the suction lance

21. IMPORTANT NOTES

WARNING

Keep chemical levels in pool as instructed in this manual.

CLEANING FILTER

VeryImportant:Makesurethecellisoffwhilecleaning/backwashingthefilter.Ifthesystemcontrolsthefiltrationpump,usetheoption"filtercleaning" of the programmed filtration mode. See section 5 - Filtration / Filter Cleaning of the General Installation Guide.

VERY IMPORTANT

Remember that the system needs some time to adapt to your pool (up to 14 days)!

SECURITY

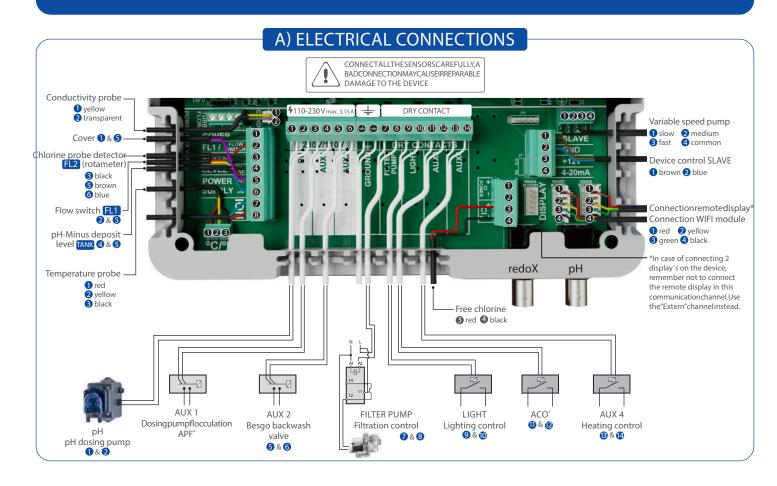
To avoid accidents, children should not handle this product unless supervised by an adult. Children should be supervised at all times when in ornear as pa, pool or jacuzzi.

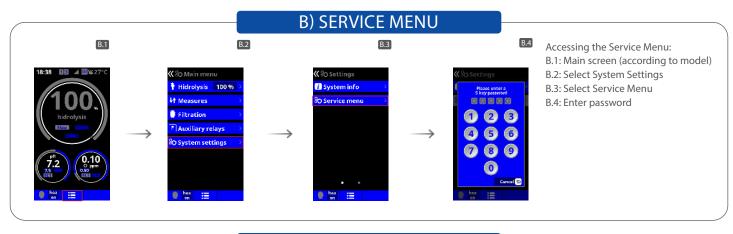
HANDLING AND DOSING DANGEROUS CHEMICALS

Chemicals should be handled with extreme caution. When preparing acid, always add acid to water, never add water to acid, be cause very dangerous gases may be produced. If the second second



DA-GEN® Dryden Aqua Generator SERVICE MANUAL





C) RELAY CONFIGURATION

C.1 ОК C.2 The predefined functions are:* ρН pH: Acid pH-pump. No Filter: Filtration pump. :hlo No Light: Pool lights. Light AUX 1: APF° leating Aux4 AUX 2: Besgo Valve ltratio Filter AUX 3: ACO° ighting Aux1 AUX 4: Heat pump or other heating device. Aux2 * Recommended relay settings. hea

Note: "NO" will deactivate the predefined parameters and leave the relay available.

C.1 The 7 available relays can be hooked up to various predefined external devices being controlled by the unit.

O Polarity times

O Filter pump

O Master&Slav

n \Xi

1 Diao



D) SERVICE SETTINGS

D.2 Parameters related to external devices

E.2

F.2

F.6

03 sec:

Lawer

X Mod



D.2 Setting the polarity times. In the case of high alkalinity, the times in Hydro Pol 1 + 2 should be reduced.

E) TYPE OF PUMP

	(E.	
🕊 🗞 Installer		🕊 🛢 Fil
O Relay config.	\rightarrow	Туре
O Polarity times		
O Filter pump	>	
O Dos. pumps	>	
C Extra settings	>	
O Master&Slave	>	
i Diagnostics	>	
🕛 hea 📰 💡	man on	e hea

E.2 With the plus/minus keys, select thepumptypeconnectedtothesystem (the default is a standard pump type). The configuration allows the control of two different variable speed pumps (VariableSpeedAorVariableSpeedB). In case of a variable speed pump (A or B), establish the speed when the cover is closed, when the pool heating is connectedand/oritcontrolsabackwash filter (Besgo).

Consult the wiring-schemata in the appendix!

🕊 🛢 Filter I	թսութ 🐼
Туре	Variable speed B
Heating	Default
Cover	Medium
Backwash	Fast
hea on	e man on

E.3

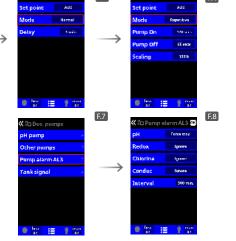
E.3 Variable Speed Pump A (Hayward[®] or similar): During the filtration periods, the corresponding relay closes. The filtration pump opens and closes contacts depending on the speed: Common + 1 – Slow speed Common + 1 + 2 – Medium speed Common + 1 + 2 + 3 - Fast speed Variable Speed Pump A B (Speck[®] or similar): During the filtration periods, the corresponding relay closes. It's necessary to connect a wire from the filtration relay to the common. The filtration pumpopens and closes contacts depending on the speed: Common + 1 – Slow speed Common + 2 - Medium speed Common + 3 - Fast speed

F.1

mp alarm AL3

hear 📒

F) DOSING PUMPS F.3 F.4



11

F.2 There are 2 modes for the pH dosing pump: F.3Normal:Delay-Delaytimebetweendetectionofincorrect value and the start of dosing. $F.4 Repetitive: With the two timers you can program \\ m the ON$

and OFF time of the dosing pump Scaling: Proportional reduction of the dosing time (Pump On time)whengettingclosetothesetpoint.Example100%:The pump time is reduced proportionally if the pH is closer than 1 to the setpoint. Example 50%: The pump time is reduced proportionally if the pH is closer than 0.5 to the setpoint.

F.6 Other pumps: With the two timers you can programm the ON and OFF time of the dosing pump F.8 It corresponds to the behavior of the system after AL3 activation:

Ignore – AL3 is not shown in the display.

Inform-Aftertheselected interval, the AL3 alarmis displayed. Force stop – After the selected interval, the AL3 alarm is $displayed on the display and the dosing pump stops. \\ To reset$ the alarm and the dosing pump, press 😂.

F.10 You can associate the level sensor (TANK) to the pH or chlorine (rX). This menu corresponds to the behavior of the system after the TANK signal activation (acid deposit level TANK). Ignore – TANK is not shown in the display

Inform - When the sensor detects that the level is low, the TANK alarm is displayed. Force stop - When the sensor detects that the level is low, the TANK alarm is displayed and the associated dosing pump stops.

F.9 F.10 OK) Force stop

F.5

G) EXTRA SETTINGS





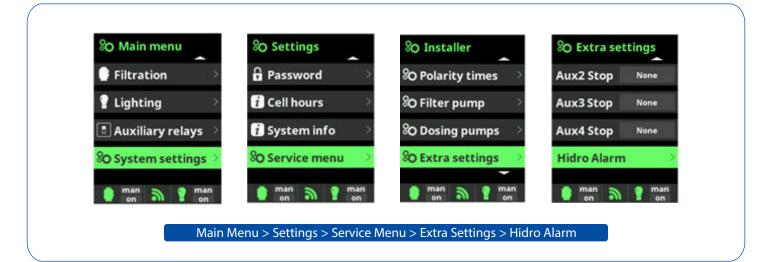
G.2 Gas (0) - The FL1 alarm is only activated by cell's gas sensor (external flow switch annulled). Siempre ON (1) - The FL1 alarm is never activated (invalidates cell's gas sensor and external flow switch); Paddle (2) - The FL1 alarm is activated by external flow switch (gas sensor annulled). Paddleorgas(3)-Whenbothcell'sgassensorandexternalflowswitchareconnected, and either of them detects lack of flow, The FL1 alarm is activated. To connect the external flow switch use the FL1 terminal Paddle+Gas(4)-Whenbothcell'sgassensorand external flow switch use the FL1 terminal Paddle+Gas(4)-Whenbothcell's gassensorand external flow switch use the FL1 terminal

Paddle delay - Delay before FL1 is activated Relaycontrolthroughflowdetection-ManagetheFL1alarmdeactivationincaseoflackofflow.Recommendedoption

for floculant dosification or similar.

/				OUNTERS
So Reset sectings Ro Reset counters Connection So web IP		King Reset counters Hidrolysis Are you sure? Canal Canal Same	Counter Counter crased	H.2 Reset counters: There are two levels of working hours counters which log the working hours of the components and devices. Inthisservicemenutheinstallercanresettheworkinghourcountersonthefirst level (for example when a new cell is installed). The second level of the working hour counters can only be accessed by the factory.
		Image: Second	I.2 Node addr: Used for th	NNECTION the configuration of more than 2 user interfaces. the system, keep the value to 1 for this parameter.
K 3⊡ Installer © Reset settings © Reset counters Connection S Web IP	K1 	K S Web (P D Server 37.07.1.97 K.2 Pere 10000	K.2 Server control and co	WEB IP onnection port in case there is WIFI Module connected to the system. ofthesystem,donotchangethedefaultvaluesunlessyoureceiveanoticefromyourprovider

AL4 - Overproduction alarm / Procedure



Cell STOP

Cell stop	200 min
am Time	Off
Rx Jam Level	0 mV

The cell stops producing after maximum time without reaching rX o Cl set point . (ex: 200 min without reaching rX setpoint).

De cel stopt met produceren na een maximale tijd zonder het rX o Cl setpoint te bereiken . (ex: 200 min zonder het rX setpoint te bereiken)

La cellule s'arrête de produire après un temps maximum sans atteindre le point de consigne rX o Cl. (ex: 200 min sans atteindre le point de consigne rX)

Hidro Alarm Cell stop 200 min. Jam Time 20 min. Rx Jam Level 20 mV man n man man man

rX Variation

Cell stops after maximum time with readings blocked in a defined range. (ex: 20 min without rX variation of 20 mV (+/- 5%))

Cel stopt na een maximale tijd met geblokkeerde aflezingen binnen een bepaald interval. (ex: 20 min zonder rX variatie van 20 mV (+/- 5%))

Arrêt de la cellule après un temps maximum avec des lectures bloquées dans une plage définie. (ex: 20 min sans variation de rX de 20 mV (+/- 5%))

Both alarms can be activated at the same time.

Very important: this feature is not activated from factory.



The settings given in this procedure are for illustrative purposes only and do not constitute a recommened setting.

De instellingen die in deze procedure worden gegeven, dienen slechts ter illustratie en vormen geen geadviseerde instelling.

13

Les réglages donnés dans ces procédures sont uniquement donnés à titres d'exemple et ne constituent en aucun cas un réglage recommandé.



Hayward Ibérica C/Miguel Faraday, 20 Edificio Charmex, B201/202 Parque Empresarial La Carpetania 28906, Getafe (Madrid) Spain

CE

EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer, it is carried out based on tests carried out under the tutelage of the regulatory agency designated by the manufacturer. Product Description: Saline Chlorinator Product reference:

OXONG - OX1NG - OX2NG - OX3NG

- Declaration of Conformity L.V.D Low voltage according to LVD Directive 2014/35/EU
 Harmonized standard: EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019
 + A15:2021; EN 62233:2008 + AC:2008
 Test number: SAFEKRIPS220601
- Declaration of conformity C.E.M Electromagnetic compatibility in accordance with the ECM Directive 2014/30/EU

Harmonized standard: EN 55014-1:2021, EN 55014-2:2021, EN IEC 61000-3-2:2019 + A1:2021, EN 61000-3-3:2013/A1:2019, IEC 61000-3-3:2013/A2:2021, IEC 61000-3-11:2019 Test number: EMCOKRIPS220601, EMFIKRIPS220601

- RoHS Declaration of Conformity under the Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) 2011/65/EU and Amendment (EU) 2015/863
 Harmonized standard: EN IEC 63000:2018, UNE-EN IEC 62474:2019, EN 62321 * (8 STD determination)
- Declaration of conformity Ecodesign according to Directive 2009/125/EC

We certify the conformity of the products with the corresponding standards, listed in this declaration, provided that their installation and use comply with the prescribed standards.

Place, date: Yuncos, 28/11/2023

Authorized signature:

Carlos Martínez Ortega Technology Knowledge Manager, Europe