

INSTALLATION & OPERATING MANUAL

A COMPLETE GUIDE TO YOUR Vi AUTOMATION & CHLORINATION SYSTEM



insnrg

CONGRATULATIONS ON PURCHASING YOUR INSNRG CHLORINATOR

THIS MANUAL HAS BEEN CAREFULLY DEVELOPED TO GIVE YOU ALL THE INFORMATION YOU NEED TO GET THE BEST VALUE FROM YOUR PURCHASE.

It is important that you read through the manual to identify the key areas you need to understand, particularly the following:

- Health and Safety Concerns
- Installation requirements
- How to operate the major features of the unit
- The importance of maintenance
- If you have a problem, what to trouble shoot before you contact your professional
- Finally, your entitlements under your product warranty.

Insnrg have developed their product to provide you with the ultimate experience and are sure you will be delighted with your purchase.

Please note: This equipment must be installed in a location that allows for regular maintenance and service by the pool owner and service technicians. Insnrg will not put service technicians at risk of injury by servicing difficult to access appliances.

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SECTION 1

WE CARE ABOUT YOUR SAFETY



IMPORTANT WARNINGS

Insrg highly recommend that this product be installed and serviced by professionals who are qualified in pool and spa product installation and service. Improper installation and/or operation can create an unwanted electrical hazard which can cause serious injury, property damage, or death. Improper installation and/or operation will void the warranty.

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.



WARNING

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



WARNING

This chlorinator is to be supplied by an isolating transformer or supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.



WARNING

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



CAUTION

All components of the filtration system including Pumps, Filters, Heaters must be positioned so as to prevent being used as a means of access to the pool by young children. To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times.



WARNING - HAZARDOUS PRESSURE

Pool and Spa water circulation systems operate under hazardous pressure during start up, normal operation, and after pump shut off. Stand clear of circulation system equipment during pump start-up. Failure to follow safety and operation instructions could result in violent separation of the pump housing and cover, and/or filter housing and clamp due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool and spa water circulation systems, all system and pump controls must be in the off position and filter manual relief valve must be in open position. Before starting system pump, all system valves must be set in a position that allows system water to return back to the pool. Do not change filter control valve position whilst system pump is operating. Before starting system pump, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water (not air) is discharged.



WARNING - RISK OF ELECTRIC SHOCK

All electrical wiring MUST be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on any electrical equipment, turn off power supply to the equipment.



WARNING

To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment.

ELECTRICAL CODES

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. Applicable national codes, include but not limited to the following:

- In Australia, AS3000 Wiring Rules

and/or any other local and national installation codes.

GENERAL SAFETY GUIDELINES

The Insnrg Chlorinator has been designed specifically for domestic (residential) swimming pool use. Using the product for any other purpose could affect performance, void warranty, and may result in property damage, serious injury, or death. Consult your local pool professional if you have any doubts.

The following general guidelines should be followed upon installation:

- The Insnrg Chlorinator has an inbuilt water flow sensor that will stop operation when lack of water flow. However, care should always be taken to not operate the Insnrg Chlorinator without any water flowing through the cell, this may cause a build-up of flammable gases, potentially resulting in fire or explosion.
- Always install equipment out of reach of children.
- A damaged power supply cable and/or chlorinator cell cable should only be replaced by the qualified service agent, electrician or manufacturer.
- When installing and using this electrical equipment, always follow basic safety precautions.
- When preparing to install the Insnrg Chlorinator, disconnect all power to your installation area.

- Ensure you connect to a circuit that is protected by a ground fault circuit interrupter (GFCI).
- The Insnrg Chlorinator requires airflow to assist in cooling down the unit during operation, therefore, do not install within an outer enclosure or beneath the skirt of a hot tub or spa.
- To avoid damage due to water from rain, splash-off, the control box must be installed a minimum of 1.5 metres (5 feet) vertically from the ground.

Your Insnrg Chlorinator is intended for use with permanent swimming pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

To reduce the risk of electric shock, fire or injury, service should only be attempted by a qualified pool service professional.

EQUIPMENT UNDER PRESSURE

Always turn pump and other equipment off prior to installing or servicing the Insnrg Chlorinator control box and/or cell. Your filtration system operates under pressure and this pressure must be released before you begin work to avoid any serious injuries or equipment damage. Please refer to your Pump and/or Filter instruction manual for further instructions.

To reduce the risk of injury, do not remove the suction fittings of your spa or hot tub. Never operate a spa or hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the equipment assembly.

PREVENT CHILD DROWNING

Do not let anyone, especially small children, sit, step, lean or climb on any equipment installed as part of your pool's operational system. Locate the components of your operational system at least 3 metres (10 feet) from the pool so children cannot use the equipment to access the pool and be injured or drown.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

PROTECTION OF SURROUNDS

Your Insnrg Chlorinator maintains your water quality with little assistance required from the pool owner. However, it is important to consider the surrounding areas of your swimming pool and spa and carefully select materials that are compatible with the chemicals commonly used to make your pool and spa water clean, safe and healthy for your family to use. These include Salt, Minerals, Acids, Chlorine, Stabilizers and other additives. Before selecting materials to be used in and around your pool and spa, please discuss all options with your contractor or pool professional to assess the compatibility of such materials and chemicals.

Some areas you should consider include the following:

- Plants - choosing plants that can withstand water containing chlorine, salt and other chemicals.
- Metals – any objects containing metal components that are regularly used in the pool area should be of a high grade, quality stainless steel.

- Stones - the porosity and hardness of natural stones varies greatly. Consult with your builder or stone contractor on the best choice for stone materials around your pool or spa. They may also recommend a regular sealing schedule to prevent weathering, staining or premature degradation.
- Chemicals - use only chemicals recommended by your pool professional, others may be hazardous and cause serious damage. Always follow the chemical manufacturers instructions on the label when dispensing.

Insnrq does not warrant or guarantee that the chlorinated water generated by the Insnrg Chlorinator will not damage or destroy certain types of plants, decking, coping and other materials in and around your pool and spa.



CAUTION

Keep your Insnrg Chlorinator and Automation system accessible for service. Keep clear of leaves, debris and building materials and regularly spray surrounding surfaces with insect surface spray.

While designed to be installed outdoors, units protected from direct sun and rain with a roof or cover will last much longer.

SECTION 2

WE WANT YOU TO BE
DELIGHTED WITH YOUR
PURCHASE. CORRECT
INSTALLATION WILL PROLONG
LIFE AND MAXIMISE THE
PERFORMANCE OF THIS UNIT.

Insnrg highly
recommend the
use of qualified
service technicians
to ensure the best
performance as
well as the health
and safety of your
family.

Insnrg Vi Installation Instructions



1 x Vi Controller



1 x Mounting Plate



4 x Screws



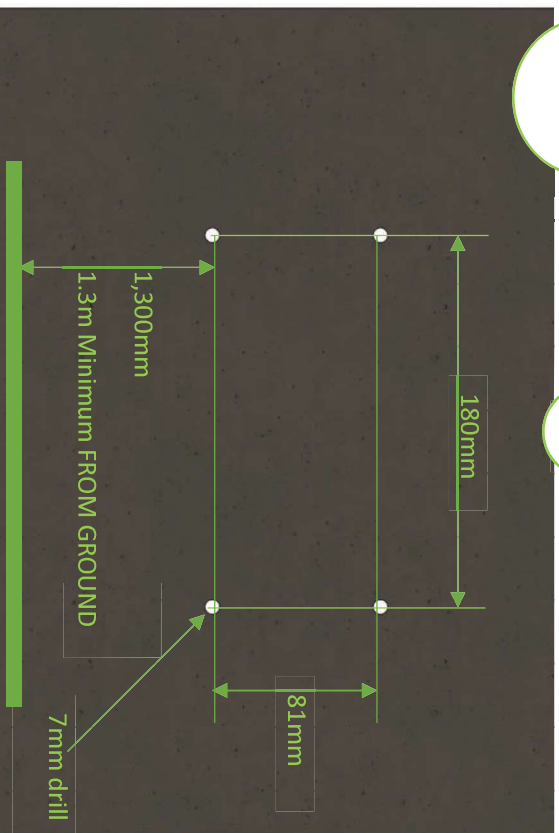
4 x Plastic Anchors (Green)



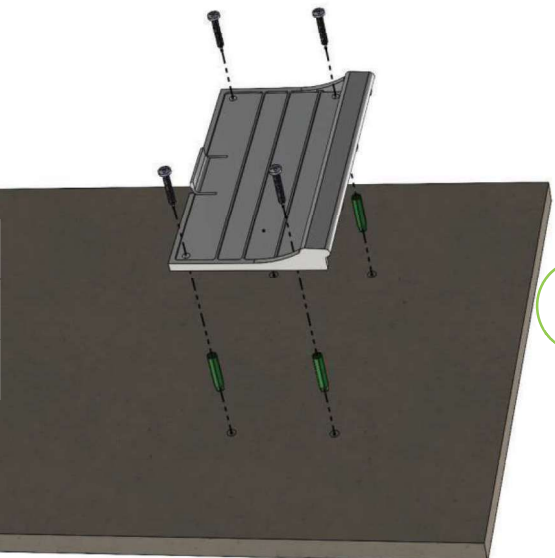
CONTROLLER MOUNTING STEP BY STEP

Start

1



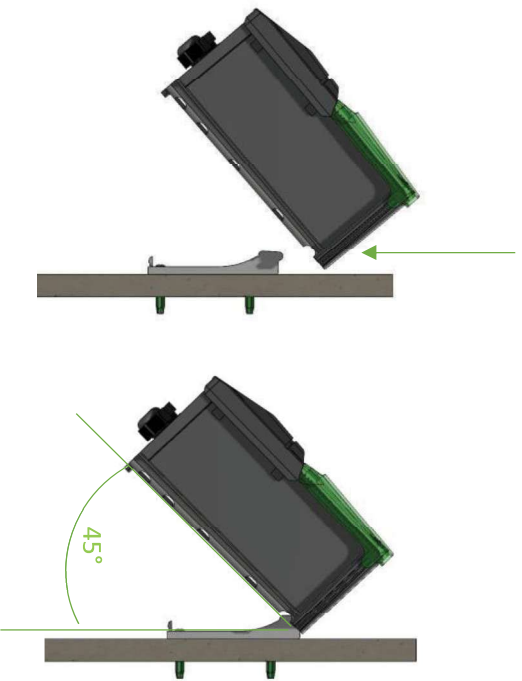
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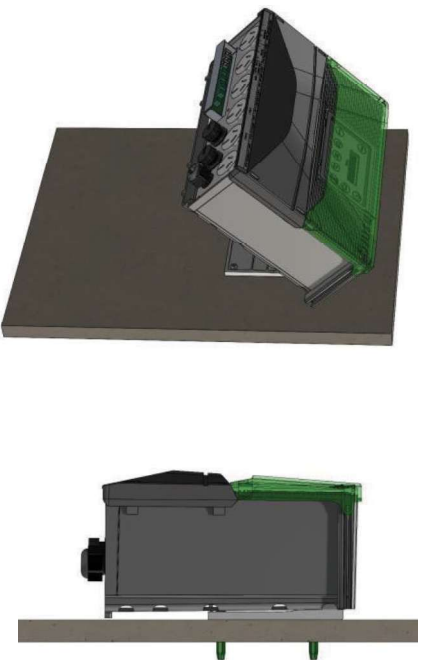
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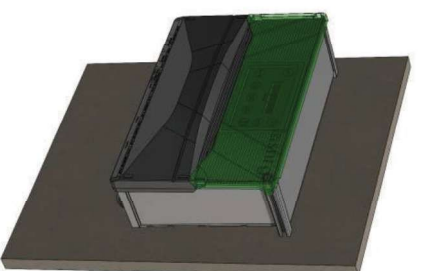
4



5



6



Finish

INSTALLING THE CONTROL BOX

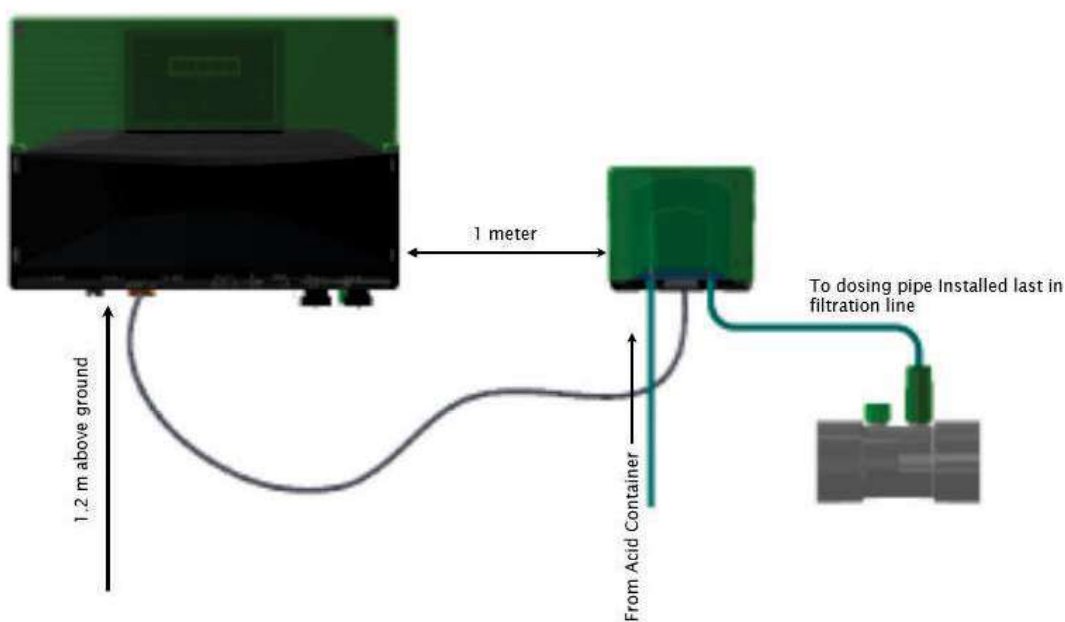
The Insnrq Chlorinator has been designed to withstand the harshest conditions, however, to prolong the life and get the most value out of your chlorinator it is important to consider the following:

- Choose a location that is preferably out of direct sunlight.
- It should be near the filter system.
- The controller should be located 1.2 metre (4 feet) above ground level to prevent rain splash back or sprinkler system damage to the underside of the controller.
- The controller must be mounted on a vertical surface/wall.
- Mount the wall bracket using the screws provided on a secure wall.
- If mounted on a post, a flat sheet 20mm larger than the controller housing must be used.

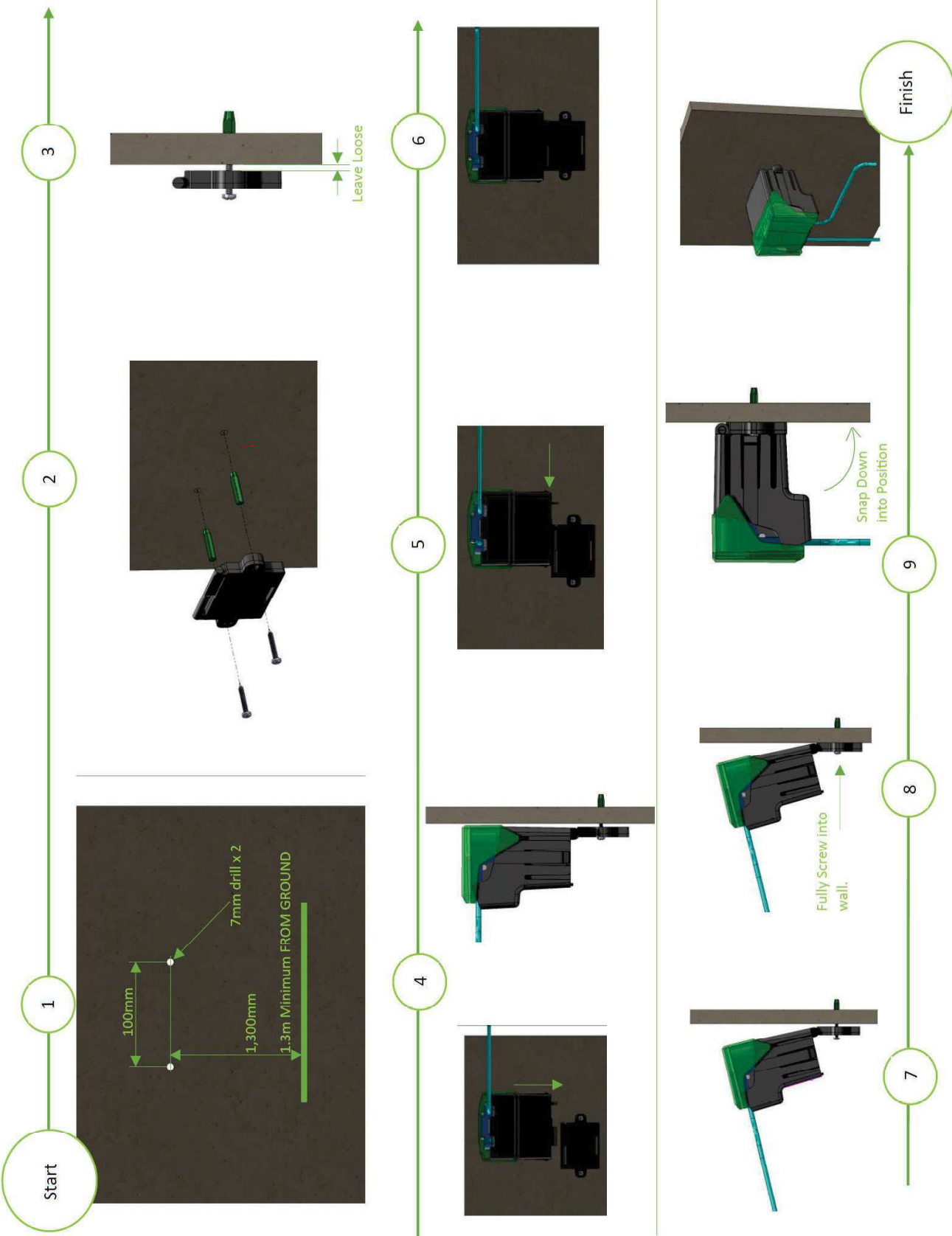
ACID CONNECTION

It is important that the Acid Bottle or Acid Drum is connected correctly onto the Peristaltic Pump on the side of the unit. Use the diagram below to ensure the correct flow of Acid.

The Supply Tube to the Pool Return must be installed into the supplied coupling (see below) and sealed. This coupling needs to be installed as the last point before the water returns to the pool. It must not be placed before any equipment such as Filters, Chlorinator Cells or Heaters otherwise it will affect the performance and warranty of these units.



MOUNTING THE ACID PUMP



With your Chlorinator you have been supplied with two (2) different sizes of Acid Bottles (see below). The larger cap is for the 15 or 20 litre drums that are used when diluting acid with the pool water. The smaller cap is for the 5 litre bottles. To install, simply connect the long clear tube to the bottom of the cap you wish to use, then screw onto the bottle. Connect the Supply Tube from the Control box to the taller hose barb. The smaller includes a non return valve that prevents acid fumes escaping and allows air in to replace acid pumped out of the drum into the pool water.

WARNING - Always dilute hydrochloric acid to 1 part acid to 2 parts water. Always add acid to water, never water to acid. A minimum 2/3 water and 1/3 acid dilution will extend life of all components and gently adjust the pH of your pool and spa water.



Acid Bottle Cap

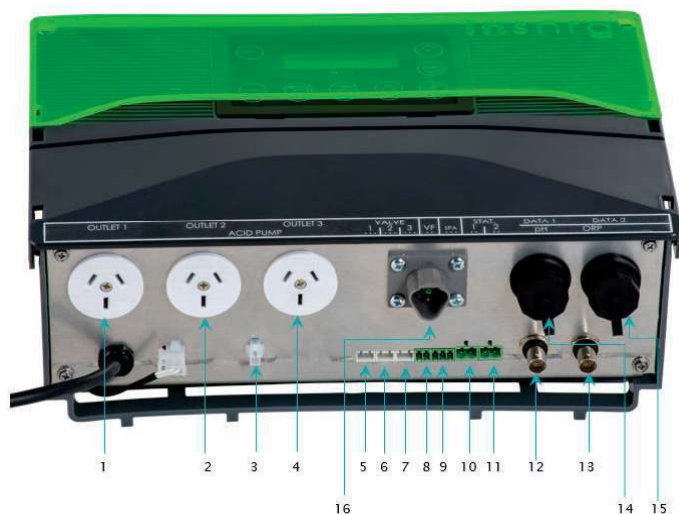
WARNING

Hydrochloric Acid is classified as a dangerous good and must be handled correctly, for full directions refer to the appropriate MSDS. When handling Hydrochloric Acid for your pool requirements, you must follow the below warnings:

- Always wear gloves, face mask and eye protection and cover any exposed skin, NEVER let Acid come in contact with your skin
- DO NOT ingest Hydrochloric Acid
- Always add Hydrochloric Acid to the water, not water to the Hydrochloric Acid
- Only handle outdoors or in well ventilated areas
- Thoroughly wash hands with water after handling Hydrochloric Acid
- Refer to the appropriate MSDS for further information

Control Box Connection Points

Your chlorinator has many control options which will be utilised by your pool professional. Below details the connections available on your chlorinator.

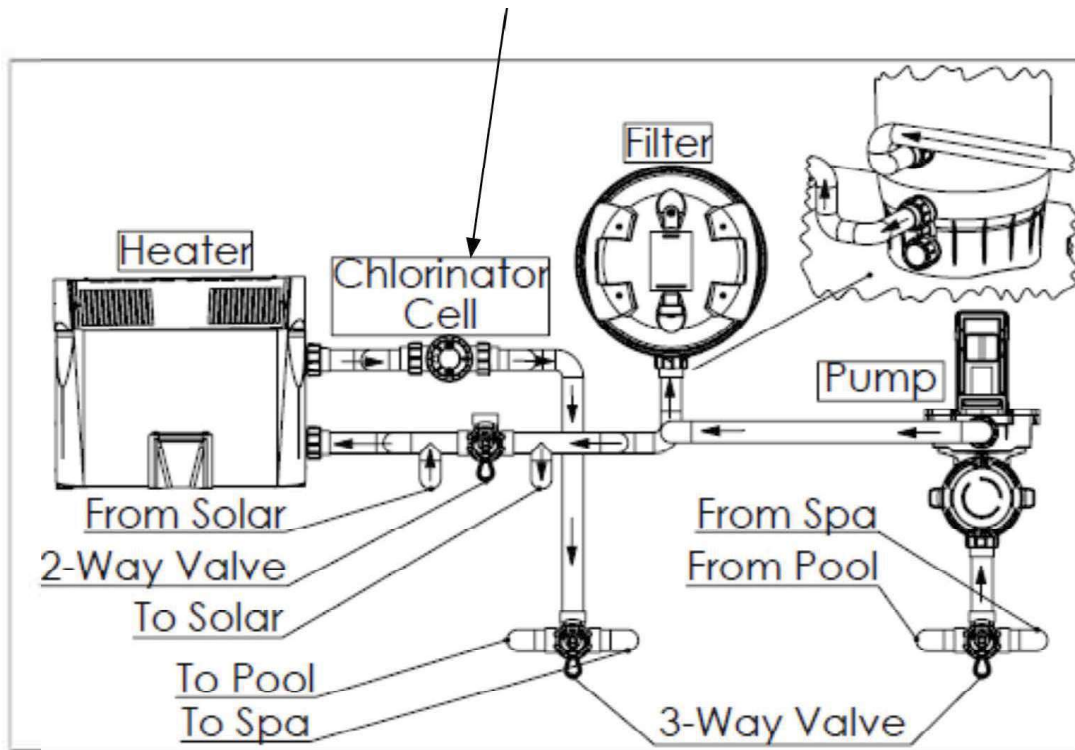


Key	Function	Selection
1	240V outlet	12 x different appliances
2	240V outlet	12 x different appliances
3	Low voltage outlet	pH Dosing Pump
4	240V outlet	12 x different appliances
5	Valve Actuator	4 x valve functions
6	Valve Actuator	4 x valve functions
7	Valve Actuator	4 x valve functions
8	Control Lead	Heat Pump/Gas Heater
9	Control Lead	Aux Spa Control
10	Water Sensor	Heater/Solar Control
11	Roof Sensor	Solar Control
12	pH Sensor	pH Balance Control
13	Chlorine Sensor	Chlorine Production Control
14	Data Cable	Wi-Fi Connection
15	Data Cable	System integration
16	Salt Cell Power	Powers Mineral Cell

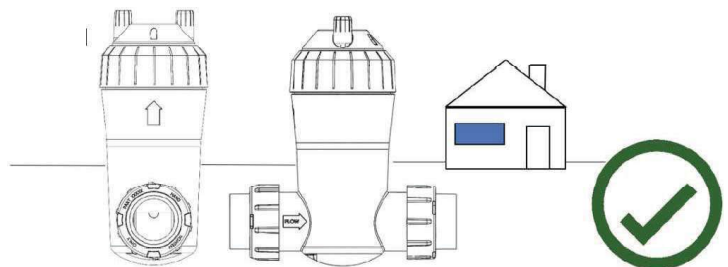
INSTALLING THE CHLORINATOR CELL

- Glue Chlorinator cell into line after filter, heater and solar (if installed). The cell is uni directional. Ensure the cell is installed so that the water flow is in the direction of the flow arrow at the base of the cell.
- Cell must be installed vertically for for safe operation.
- The cell must be installed with the barrel unions and the cell should be vertical. Make sure that the 'o'rings are correctly fitted and the union nuts are tightened firmly by hand. Flow direction through the cell is critical – refer to label on housing.
- Hang Controller on wall bracket and plug power supply lead into 3 pin 10 amp outlet
- Plug filter pump 240 Volt 3 pin plug into underside of Controller.
- Connect cell cable into underside of controller
- With the unique design and the water flow within the Chlorinator Cell, you are able to position the cell at any height. This provides greater flexibility when plumbing the full equipment system and potentially reduce the amount of PVC pipe and fittings required.
- Review the installation position of the cell. If it is likely the water in the cell could drain backwards into a heater or other pool equipment, install a non return valve between equipment and cell.

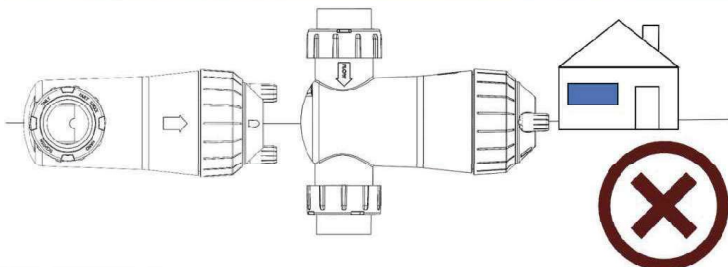
Must be Installed after, pump, filter and heater on return line to pool



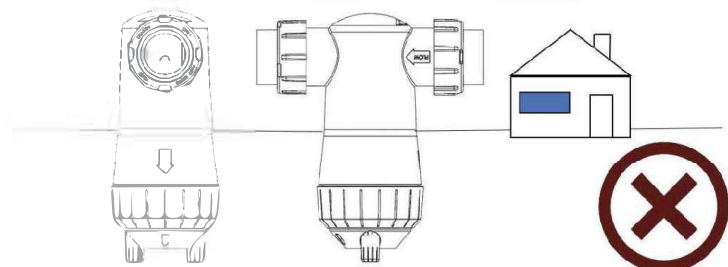
Install cell vertically



Do Not Install side on



Do not Install upside down



WATER CHEMISTRY

Your Insnrg Chlorinator is designed to operate every day to ensure that your pool is correctly sanitised. During Summer the sun removes chlorine from the water and we recommend increasing the running times compared to the cooler winter months. Timer periods on the Chlorinator are initially defaulted to operate for 10 hours 0800 till 1800. In most instances this will be sufficient. However, consider the below for the different seasons:

SUMMER

You should set your Chlorinator to operate for 8 to 10 hours per day. The ORP (Chlorine) sensor will regulate the chlorine production during the TIMER ON period however, can take 30 to 60 minutes to sense a change in the chlorine levels. To give every chance for correct sensing we recommend at least 1 x 8 hour timer ON setting each day. Depending on your pool type set the ORP sensor between 650 and 750 then test for Free Chlorine levels and adjust accordingly.

WINTER

You should set your Chlorinator to operate for 4 to 8 hours per day. A lower ORP (chlorine) level may also be selected. Operating for longer, particularly with a variable speed pump is recommended as the pool will skim the surface and reduce the amount of dust and debris that sinks to the floor of the pool. In cooler months where water temperature drops below 20 degrees turn Probe Settle Time ON. This function is accessible in the Service Menu (see page 27).

The following table can be used as a guide for your water chemistry balance and levels.

	Pool Type					
	Concrete		Fibreglass		Vinyl Liner	
	Low	High	Low	High	Low	High
Total Alkalinity (TA)	100	200	120	170	150	200
Calcium Hardness (CH)	60	90	80	100	60	90
pH	7.6	7.8	7.4	7.6	7.6	7.8
Salinity	3500	4000	3500	4000	3500	4000
Combined Chlorine	0	0.5	0	0.5	0	0.5
Free Chlorine	1.5	3	1.5	3	1.5	3
Outdoor Pools	Cyanuric Acid (Sunscreen) 30 ppm					
Water Chemistry recommendation provdied by Aqua Science Consultants.						

TOTAL ALKALINITY

This is your most important pool water chemistry measurement. The ideal range is crucial for accurate ORP and pH sensor performance. Refer to page 30 for the recommended range to suit your pool.

CALCIUM HARDNESS

Refer to Page 30 for the recommended Calcium Hardness levels to suit your pool.

SALT/MINERAL LEVEL

Salt level should be maintained between 3,500 and 4,000ppm but should never be allowed to fall below 2,000ppm. Although salt is not consumed by the chlorinator, salt is lost during backwashing, and when your pool overflows due to rain or splashing. The correct salt level is important to cell life and the effective operation of your chlorinator.

A typical pool of around 50,000 litres requires 200kg of salt or minerals to initially set-up the pool to 4,000ppm. When initially adding minerals or salt err on the side of caution. You can always add more minerals/salt later.

An indication of the salt level can be found using the Service Menu in the chlorinator. Contact Insnrg for instructions and advice. If low salt is indicated, check again in 24 hours and then if it is still indicated, add additional salt to the shallow end of your pool. Run the filtration system for approx. 6 hours to help mix the salt in the pool. It can take up to a day for the salt to fully dissolve.

If low salt is still indicated take a water sample to your local pool shop for a water test. Do not increase salt above 4,000 ppm. When using pure Magnesium it is important to maintain Magnesium level at 3,500 to 4000 ppm.



WARNING

Some people recommend that you put salt directly in the skimmer box. This is a very bad practice as it allows very high concentrations of salt to be passed through your filtration and other pool equipment.



WARNING

**WHEN MIXING ACID WITH WATER:
ALWAYS ADD ACID TO WATER. NEVER ADD
WATER TO ACID.**

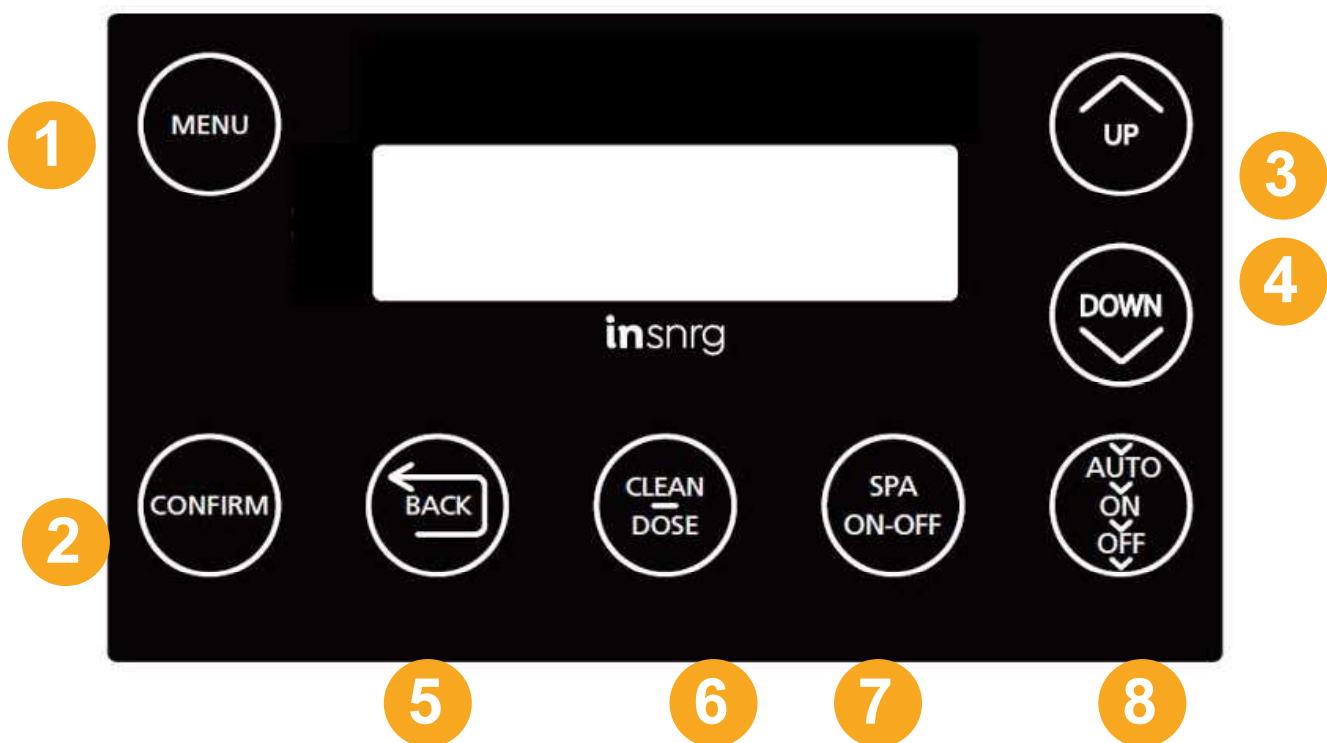
	10,000 GALLONS 37,800 LITRES		15,000 GALLONS 56,700 LITRES		20,000 GALLONS 75,600 LITRES	
Salt required to increase PPM by the below amount	POUNDS	KG'S	POUNDS	KG'S	POUNDS	KG'S
4,000	333	151	499	227	665	302
3,750	312	142	468	213	624	284
3,500	291	132	437	198	582	265
3,250	270	123	405	184	541	246
3,000	249	113	374	170	499	227
2,750	229	104	343	156	457	208
2,500	208	95	312	142	416	189
2,250	187	85	281	128	374	170
2,000	166	76	249	113	333	151
1,750	146	66	218	99	291	132
1,500	125	57	187	85	249	113
1,250	104	47	156	71	208	95
1,000	83	38	125	57	166	76
750	62	28	94	43	125	57
500	42	19	62	28	83	38
250	21	9	31	14	42	19
-	-	-	-	-	-	-

	25,000 GALLONS 94,500 LITRES		30,000 GALLONS 113,400 LITRES		35,000 GALLONS 132,300 LITRES	
Salt required to increase PPM by the below amount	POUNDS	KG'S	POUNDS	KG'S	POUNDS	KG'S
4,000	832	378	998	454	1,164	529
3,750	780	354	936	425	1,091	496
3,500	728	331	873	397	1,019	463
3,250	676	307	811	369	946	430
3,000	624	284	748	340	873	397
2,750	572	260	686	312	800	364
2,500	520	236	624	284	728	331
2,250	468	213	561	255	655	298
2,000	416	189	499	227	582	265
1,750	364	165	437	198	509	232
1,500	312	142	374	170	437	198
1,250	260	118	312	142	364	165
1,000	208	95	249	113	291	132
750	156	71	187	85	218	99
500	104	47	125	57	146	66
250	52	24	62	28	73	33
-	-	-	-	-	-	-

SECTION 3

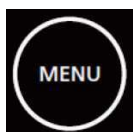
HAVE FUN AND GET THE MOST OUT OF YOUR PURCHASE

Your Insnrg Chlorinator is the brains of your swimming pool. This section will outline the features of the chlorinator and instruct on how to set-up for the best results, all year round.



DISPLAY OVERVIEW

BUTTON ALLOCATION



1. MENU button
The MENU button selects the following menus:
(1) Change Settings,
(2) Set Time,
(3) Activate Timer Periods,
(4) Service and
(5) Installation Menu.



2. CONFIRM Button
Use the CONFIRM button to select a menu displayed on the LCD.



3. UP button- use to adjust values or move to next menu selection
4. DOWN Button - use to adjust values or move to next menu selection



5. BACK Button

The Back button is pressed to return to previous screens within menus



6. CLEAN - DOSE Button

After turning the chlorinator and pump OFF using the IO button, press CLEAN-DOSE and use the up arrow to select how long you wish to backwash or rinse your sand filter. At the end of the selected time (in minutes) the pump will turn off automatically. Can also be used to vacuum your pool for up to 30 minutes on high speed pump operation (when an Insrg variable speed pump is installed and data cable connected). While in Chemical settings menu, the Clean-Dose button can be used to operate the pH dosing pump and manually add Pool Acid to the water or prime the acid dosing tubes.



7. SPA ON-OFF Button

When motorised valves are installed and connected, pressing the pool spa button will automatically turn valves to isolate the Spa, turn on the heater and reduce chlorine output to suit the spa.



8. Auto>ON>OFF Button

This button controls the power to the Pump and chlorine production. This button will cycle the chlorinator and pool pump between AUTO (Timer function) MANUAL on which over rides timer settings and OFF which shuts down filter pump and chlorine production.

- Manual ON: Press IO until Manual On is displayed and press CONFIRM to turn pump and chlorinator on. Use UP or DOWN buttons to select chlorine output.
- Manual ON and automatically return to Timer mode. Press ATUO>ON>OFF until Manual ON is displayed, press UP or DOWN arrow to select hours of operation and press CONFIRM. If an Insrg Variable Speed Pump is installed with data cable connected, use UP/DOWN arrows to select pump speed and press CONFIRM. Select chlorine output by pressing UP/DOWN buttons and Press CONFIRM. Chlorinator and pump will now revert to AUTO timer mode at end of selected number of hours.
- Auto – Chlorinator and filter pump will operate in conjunction with the timers that have been set.
- Off – Chlorinator and filter pump are off

MENU OVERVIEW

The MENU button is used to select the relevant area that you want to adjust on your Insnrg Chlorinator. The following areas are accessed by pressing the Mode button the appropriate number of times then press the CONFIRM button to access this menu.

5 MENUS ARE AVAILABLE:

1. Change Settings
2. Set Time
3. Activate Timer Periods
4. Service Menu
5. Install Menu

To access each of the 5 menus, Press the MENU button and the screen will cycle between each menu. When the screen displays the MENU you wish to use, Press CONFIRM to enter than menu.

MENU 1 - CHANGE SETTINGS

Press CONFIRM to access this menu and use UP or DOWN buttons to select the following menus:

1. CHEM BALANCE
2. EQUIP STATUS
3. TEMPERATURE SETTINGS

1. Chem Balance

- pH Set Point - Press up or down button to change value.
- ORP Set Point - Press up or down button to change value.
- Prime Acid Pump – By pressing Backwash Button acid pump will operate quickly prime the tubing for the acid feeder. Use this feature to add acid if needed.

2. Equip Status

This allows assigned equipment to be turned to Auto (timer period), On or Off. This can be achieved all at once or individually. Use the UP or DOWN buttons to toggle between ALL AUTO, ALL ON or ALL OFF or go to INDIVIDUAL to select a specific piece of equipment to set to AUTO, ON or OFF. This operation will only function once equipment has been assigned through the Install Menu.

3. Temperature Settings

- Solar – Used for setting temperature when solar heating is connected.
- Pool – Used for setting temperature when external heater is connected.
- Spa - Used for setting temperature when external heater is connected.

MENU 2 - SET TIME

If Vi Chlorinator is connected via the inTouch Portal select Auto Time, and location for automatic Time setting from the internet.

If the Vi is not connected to the internet, Press the MENU button until Set Time appears on the Display, then press the CONFIRM button. The Cursor will then flashes on hours, press up or down buttons to change hours then press CONFIRM button to move to minutes, press up or down to change and press CONFIRM button to save.

MENU 3 – ACTIVATE TIMER PERIODS

Press the MENU button until Activate Timer Periods appears on Display, then press the CONFIRM button. Screen will display “Timer 1 Active” with cursor flashing on “Active”, press up or down buttons to cycle between “Active” and “Off”. Press CONFIRM to select and move to next screen.

If “Active” is selected, cursor will move to Timer 1 Start and flash under hours, press up or down button to change, then press CONFIRM button, cursor will move to minutes, press up or down button to change then press CONFIRM button, cursor will then move to Timer 1 Finish and flash under hours, press up or down button to change, then press CONFIRM button, cursor will move to minutes, press up or down button to change, then press CONFIRM. If Insnrg Variable Speed Pump has been set-up the cursor will now move to “Pump Speed”, press up or down button to select the correct speed, then press the CONFIRM button to save.

This process can now be repeated for the four (4) available timer periods available in the MENU.

“Each timer period will ask if you want the Chlorinator or Filtration Pump to operate with these timers. Specify ‘NO’ if you want to operate other equipment during set timer periods without the chlorinator and filtration pump operating.

MENU 4 – SERVICE MENU

Press the MENU button until Service appears on the screen, then press the ENTER button to enter menu. Enter the code 1 1 1 1 to access the SERVICE MENU. We recommend you do not divulge the code to casual users of your equipment.

Once the combination of secret buttons is entered, the Screen will display:

- Calibrate pH – This allows you to change the pH value by pressing the up or down button.
- Calibrate ORP – This allows you to change the ORP value by pressing the up or down button.
- Calibrate Stat 1 - Allows calibration of connected thermistor to allow for different types of thermostat wells.
- Calibrate Stat 2 - Allows calibration of connected thermistor to allow for different types of thermostat wells.
- Polarity - Allows you to change the polarity of the cell.
- Total Hours – Shows number of hours that the cell has been operating
- Reversal Hours – Shows number of hours that the cell has been in reversal
- Cell Replaced – When cell is replaced, can reset hour statistics by pressed YES
- Volts / Amps – This shows cell output in both volts and amps.
- Set Up Wi-Fi - displayed only if inTouch Portal is connected. Allows selection of Wi-Fi network, enter WiFi password using the Pool/Spa button to select upper or lower case, numbers or symbols and UP/DOWN arrows to select digits. Allow cursor to move to next position before entering the next Wi-Fi password digit. Use back arrow to go to previous cursor position. After password is entered allow cursor to move to last position after password and press enter to make connection.
- View Wi-Fi - displays Wi-Fi connection, signal strength, server status and enables Reset Wi-Fi. Do not reset Wi-Fi unless you have installed a new modem, Wi-Fi or a new Internet provider.
- Temperature – Shows internal temperature of the chlorinator box
- Version – Shows version number of Firmware
- Prime Protect - If activated it will turn pump off and protect mechanical seal if the water sensor in the cell does not sense water flow within 5 minutes.
- Probe Settle Time - If activated it will sense pH and ORP for one hour before activating cell or dosing acid. Sensors can take up to an hour before sensing correct ORP and pH when circulating pump is first turned on each day. It is only recommended for indoor swimming pools and prevents over chlorination.
- Test Output – This is used to test the outlets and connections to the chlorinator

MENU 5 – INSTALL MENU

Press the MENU button until INSTALL MENU appears on the screen, then press the ENTER button to enter menu.

Screen will display:

- Insnrg Pump – If you have an INSNRG Qi Pump installed, you can select YES and the Pump and Chlorinator will talk together. Requires a separate Cable that can be purchased from your selected Pool Professional.
- Calcium Level – Will adjust the reversal time of the cell to handle high Calcium levels. By increasing the Calcium level it will shorten the life of the cell. Please discuss with your Pool Professional before changing this setting.
- Solar – Allows you to set-up the chlorinator to activate your Solar System as per the following options
 - 1. None – Solar not used
 - 2. Ind Pump – When independent pump is running solar it allows you to set temperature and start time
 - 3. Valve – Operates assigned valve for solar
 - 4. Inline
- Channel 1 - Press up or down button to scroll through names you want to assign to this Channel.
- Channel 2 - Press up or down button to scroll through names you want to assign to this Channel.
- Channel 3 - Press up or down button to scroll through names you want to assign to this Channel.
- Valve 1 - Press up or down button to scroll through names you want to assign to this Channel.
- Valve 2 - Press up or down button to scroll through names you want to assign to this Channel.
- Valve 3 - Press up or down button to scroll through names you want to assign to this Channel.
- Stat 1 - Can be assigned to air sensor (roof solar sensor) or water sensor (in pipework)
- Stat 2 - Can be assigned to air sensor (roof solar sensor) or water sensor (in pipework)
- Antifreeze - If activated will turn pump on when water approached freezing point to prevent water freezing in pipework. Only works if air sensor installed and activated. This feature is mainly used in the US where temperatures regularly drop below freezing.
- VF Connect - Voltage Free contact used for connection of heat pump or gas heater. If assigned and water sensor (Stat 1 or Stat 2) is connected and assigned, will allow the Vi to turn heater on and off. Usually the water pressure switch or dedicated external connection is wired to the VF contact.
- Heater Run On - Will run circulating pump for 5 minutes after heater turned off to remove residual heat from gas heater.
- pH Sensor Connected – Activates pH sensor.
- ORP Sensor Connected – Activates ORP sensor.
- Pool Size – Press up or down button to input correct pool size.
- Spa Size - Press up or down button to input correct spa size.
- Return To Fact Settings – This will return all settings to the original factory settings.

BACKWASHING OPERATION

If you have a Sand or Media Filter Installed you will need to periodically clean your filter as per the instructions provided in the relevant manual. Your Insnrg Chlorinator has a Backwash Menu that will assist you to ensure you get the right amount of time to clean your filter and to eliminate the risk of leaving your pump running too long and wasting your expensive pool water.

Also, as an additional safety feature, when the chlorinator is in Backwash mode, then chlorinator cell stops producing eliminating any risk of excess Chlorine Gas build up in the cell.

Follow your instructions to clean your filter. When you have selected Backwash on your Multiport Control Valve, then select the BACKWASH button as below:

- Press the AUTO-ON-OFF button until the filter pump is OFF.
- Ensure Filter is in Backwash mode (see filter instruction manual)
- Press CLEAN-DOSE button once and determine how long you want to backwash for by pressing UP or DOWN buttons to determine number of minutes to backwash.
- Press CONFIRM button and Chlorinator turns pump on but no power to cell. Time clock will start to count down and turn the pump off when timer reaches zero.
- Use this function for both the Backwash and Rinse settings to get the best benefit.

CHLORINE OUTPUT LEVEL

The amount of Chlorine in your swimming pool affects you and your family's enjoyment of swimming. The correct chlorine residual in your pool will eliminate bacteria and algae making your pool clear and healthy to swim in.

Your Vi chlorinator incorporates an ORP sensor to measure and control the activity of the chlorine and a pH sensor to measure and control the pH level of your water.

ORP is not an exact measure of chlorine but rather a measurement of the activity and effectiveness of the chlorine in your pool.

The pH balance of your pool water has a significant impact on the activity of the chlorine, and is critical in keep your pool and spa pleasant to swim in.

ORP readings will fluctuate throughout the day with bather load, sunlight, pH levels, contaminants affect the chlorine level and activity. Your chlorinator will adjust chlorine production to attempt to meet the ORP set point but can take some time, particularly on hot sunny days, or after heavy use.

As chlorine is produced, the pH will gradually increase. The pH sensor will enable the chlorinator to add acid in small quantities to keep the pH close to set point and create a comfortable healthy pool and spa to use. Use the table below as a guide during set up.

WATER CHEMISTRY RECOMMENDATIONS

The quality of your pool water is dependent on three important functions. While the Vi will maintain both chlorine and pH on a day to day basis, there are other important maintenance functions that need to be attended:

- Water Circulation - your total volume of your pool should be passed through your filter twice a day to ensure the organic material that enters your pool water is filtered out.
- Chemical Balance - Total Alkalinity, Calcium Hardness, pH balance and other chemicals at the correct levels will enable the chlorine to be effective and create a pleasurable swimming environment.
- Disinfection - The chlorine level in your pool is critical to ensure disinfection of the water, prevent person to person transmission, and on a periodic basis oxidise bi products and other contaminants present in your pool water.

	Pool Type					
	Concrete		Fibreglass		Vinyl Liner	
	Low	High	Low	High	Low	High
Total Alkalinity (TA)	100	200	120	170	150	200
Calcium Hardness (CH)	60	90	80	100	60	90
pH	7.6	7.8	7.4	7.6	7.6	7.8
Salinity	3500	4000	3500	4000	3500	4000
Combined Chlorine	0	0.5	0	0.5	0	0.5
Free Chlorine	1.5	3	1.5	3	1.5	3
Outdoor Pools	Cyanuric Acid (Sunscreen) 30 ppm					
Water Chemistry recommendation provided by Aqua Science Consultants.						

CYANURIC ACID

Chlorine can dissipate faster than the chlorinator can produce on hot sunny days. The addition of a small amount of cyanuric acid (CYA), also called stabiliser or sunscreen, can retard the activity of chlorine and make it last longer in the pool.

The CYA molecule combines with chlorine during daylight hours, slows the activity of chlorine which makes chlorine last longer. However, at night the CYA dissociates from the chlorine molecule leaving the chlorine to become highly active. This process can significantly affect the ORP reading so when CYA is present in your pool, be sure to operate your chlorinator during daylight hours. Insng recommend a maximum CYA level of 30 to 40 ppm. Contact Insng for further advice.

IMPORTANT MAINTENANCE

To ensure the Vi Chlorinator gives you years of efficient and effective operation, parts of the unit require regular maintenance and replacement of consumables.

Please undertake the following maintenance schedule:

Weekly	Check Acid Drum is full and replenish with a 50:50 blend of water and hydrochloric acid. Check Water Balance at home.
Monthly	Check water balance at Pool Shop and adjust TA, CH, CYA and salt levels as required. It is good practice to super chlorinate or oxidise your pool once a month in the summer or when your pool is used a lot.
Quarterly	Remove the pH & chlorine probes after turning off all pumps and other equipment. Gently clean the tip of each with a non abrasive cleaner such as Jiff, wash in fresh water, refit and continue normal operation. Access the squeeze tube inside the acid pump and lubricate the rollers and squeeze tube with a silicone based grease.
Yearly	Replace Acid Pump tubing, squeeze tube and non return valves. These are sold as a kit and are available from Insng. The squeeze tube is pulsed frequently by the roller mechanism and eventually wears out with the risk of splitting and spilling corrosive acid on your equipment and plant room.
2 years	Check and replace ORP and pH sensors if required.

SECTION 4

OOPS, SOMETHING'S NOT RIGHT?

Maintenance, Trouble Shooting,
Replacement Parts, Warranty &
Contact Section

MAINTENANCE PLAN

Your new Insnrg Chlorinator is one of the hardest working items in your household. It is designed to withstand harsh outdoor conditions and withstand high velocity water with chemicals. Some of these parts will wear in the normal course of use and require regular checks and maintenance. A well thought out pro-active maintenance schedule will identify faults early and extend the lifespan of your chlorinator.

To protect against extremes of temperature, your unit is designed to allow expensive electronics to cool. Ants and some insects are often attracted to the warmer, dry environment inside the enclosure. We recommend that, with power turned off, you spray a surface insecticide on the surfaces surrounding the control to prevent ant and insect ingress. Repeat every three months or as necessary.

WHEN?	WHAT ARE YOU LOOKING FOR?	HOW CAN YOU FIX?
Weekly	Check Acid level is acid drum and check pH level.	Change Acid drum or refill with a mixture of 2 parts water and 1 part acid. Refer acid handling instructions in this manual.
Weekly	Check Acid delivery tubes for any signs of leaks	If any leak is present or acid spillage call Insnrg for service
Quarterly	Check around the unit for leaves/debris or signs of flooding.	Remove any debris that is restricting air circulation around the equipment. If in a flood prone location, rectify.
	Check for any Insects/ Ants etc	It is a good practice to use a good quality surface spray around your equipment. Make sure all units are turned off and then spray around all units to eliminate any insect/ants etc
	Check cell for Scaling	If calcium or scale is apparent follow cell maintenance instructions in this manual

CELL MAINTENANCE

The Vi Chlorinator periodically reverses polarity to the cell which removes scale and calcium from the electrodes. However, under some conditions, scale and calcium can deposit on the electrode and may require manual cleaning. High calcium levels, (200 ppm), the use of magnesium, low water flow, excessive salt and high water temperatures can increase the need to manually clean the Chlorinator cell.

- We recommend the following levels:

Salt level 3500 to 4000 ppm. Do not exceed 4000 ppm Magnesium should not exceed 50% of the total salinity level.

Flow Minimum 180 litres per minute

If your pool has a high calcium or magnesium level inspect your cell every 3 months for signs of scaling or calcium build up. Scaling is apparent when a white or brown build up can be seen on the side of the electrodes or in the green coloured electrode assembly case.

Cleaning the Cell

Turn power off to system and close any isolation valves if system is below water level.

Remove pH and ORP sensors and leave in a clean area

Undo the large lock nut at top of cell and firmly lift the internal cell assembly case from the clear housing.

Use a bucket or plastic container deep enough to rest the internal assembly case.

Use a mixture of 33% hydrochloric acid and water to fill the container up to the level of the O ring. Do not cover the top of the cell.

Wear protective mask and gloves when handling acid.

Mix one part acid to 3 parts water - always add acid to water, not water to acid.

Follow acid drum instructions when handling.

Allow cell to soak in acid/water solution for 1 hour.

Remove and rinse off, then reassemble in the correct orientation.

TROUBLESHOOTING

The chart below identifies some of the main issues you may encountered with your chlorinator. This should assist with the majority of problems. Insnrg highly recommends regular checks and maintenance of your swimming pool equipment by a qualified pool professional. This will extend the life of your equipment and give you the best performance.

WHAT IS THE PROBLEM?	WHAT YOU CAN DO ABOUT IT?
No Flow or Dry Cell Detect	• Check all valves on system are in the correct position. • Clean Filter • Check any blockages in skimmer basket and pump basket. • Check suction cleaner is free from any blockages.
Low chlorine	• Test Salt level and add required bags of salt to achieve minimum level • Check water flow to pool, clean filters, leaf baskets or adjust pump speed • Calcium build up on anodes in cell. Clean cell in diluted acid and remove calcium. If problem still continues contact your pool professional.
Blank Display	• Check all power connections. Turn power off and off again. . If problem continues contact your pool professional.
Low Chlorine Production	• Check cell cable connection • Adjust timer period according to swimming season and bather load. • Increase ORP set point • Check water chemistry including pH level and stabiliser level. Adjust as per demands from pool professional.

Pairing Appliance Wi-Fi Data Communications

Wi-Fi Pairing Enabled Appliances

Q4 Variable Speed Pump
Qi 1800 Variable Speed Pump
Gi and G9 Gas Heaters
Relay Hub

When a Vi Chlorinator and/or Relay Hub are installed, can use Wi-fi to pass data read and write commands. Wi-Fi pairing avoids the need to install data cables between appliances.

The Vi and Relay hub can then send commands to each Wi-Fi paired appliances and read the operating state of these appliances. Distance and obstacles between appliances should be minimised however, the Wi-Fi range is up to 50 meters.

Read and write data messages are encrypted for security purposes.

Pairing Button

A weatherproof back lit button is located on each of the above appliances.

On Vi Chlorinators and the Relay hub the pairing button is located underneath the control panel mounted in the aluminium heat sink.

On the Q4 and Qi pump the pairing button is located on the top of the motor controller.

On Gas Heaters the pairing button is located in a recess adjacent to the power lead on the left side.

Pairing Appliances for the first time

1. Locate the pairing button on each appliance.
2. Connect power to each appliance
3. Press the Pairing Button on one appliance for 5 seconds until it displays a Blue back light.
4. After pressing the first button for 5 seconds, press the pairing button on each other appliance for 5 seconds within 90 seconds.
5. After 2 minutes, each button will successively turn Green to indicate successful pairing.
6. To turn the status light off, press the pairing button momentarily (less than 1 second).
7. To check the status of the appliance when the pairing light is off, momentarily press the pairing button (less than 1 second).
8. The paired appliances will automatically reconnect with each other after power interruptions.

Assigning Appliances in the Install Menu of the inTouch App.

1. If the inTouch Wi-Fi portal is installed, connect the Vi Chlorinator or Relay Hub (if Vi is not installed) to the owners Wi-Fi network.
2. Connect the Insnrg inTouch Automation App to the Mac Address on the Wi-fi Portal.
3. Go to the Installation Menu of the inTouch App and tap on the Discover icon. This will read all current connected appliances.
4. Then use the Installation Menu to assign power outlets, temperature sensors, actuated valves etc.

Assigning Appliances in the Install Menu of the Vi/Relay Hub (inTouch Wi-fi Portal NOT installed).

1. Press the Menu button 5 times to get to the INSTALL MENU then press CONFIRM.
2. Assign each power outlet, actuated valve, temperature sensor and Voltage Free (VF) lead to appliances connected to the individual Vi Chlorinator or Relay Hub.

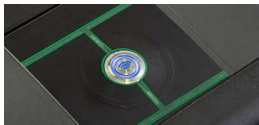
Resetting Paired appliances

If a product is replaced, all Appliances must have their pairing RESET and be paired again.

1. Press and hold each appliance pairing button for 10 seconds. The back light will turn Magenta.
2. After each pairing light turns purple the pairing settings have been deleted.
3. Now repeat the pairing procedure by pressing each button in succession for 5 seconds within a period of 90 seconds. A Green light on each button represents a successful pairing procedure.

Testing Paired Appliances

1. From the Vi and Relay Hub, Press the MENU button to go to the CHANGE SETTINGS MENU. Press CONFIRM. Use the down or up buttons to navigate to EQUIPMENT STATUS.
2. Press CONFIRM, then use the down button to go to INDIVIDUAL, and press CONFIRM.
3. At each appliance turn the appliance On and then OFF to ensure Wi-Fi communication is operating.



Pairing Mode



Connected



Clear current pairing



Fault/Attention

WARRANTY

Insnrng products are designed and manufactured to the highest possible standards of performance.

Australian Consumer Law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty Period and Conditions

Insnrng Techne Pty. Ltd. (hereinafter “the Company”) is pleased to warrant to the original retail purchaser that this product shall be free of manufacturing and material defects for the following periods: Controller and chlorine cell: 3 years. Acid delivery tubes, check valve, pH and ORP sensors 1 year.

1. The product is purchased new from an authorised Insnrg dealership in Australia, New Zealand or North America.
2. This warranty is not assignable and applies to the original retail purchaser only and the original receipt, invoice or any other proof of purchase must be retained and produced if requested by the Company.
3. Nothing in this warranty shall apply to any defects caused by misuse or abuse, neglect, accident, extremes of climate, dampness, humidity, reasonable fair wear and tear and/or any causes other than defects in manufacturing and materials. Proper care and maintenance information is detailed in the Owner’s Manual for this product which you must follow.
4. Where a defect is physically visible or otherwise affects the exterior surfaces of the product, you must notify the Company of such defect within fourteen (14) days from the date of your purchase.
5. If the product is bought as a demonstration, refurbished, ex-rental, discontinued or otherwise previously unboxed unit, the warranty applicable shall be limited to twelve (12) months only.

Warranty Claim Procedure

To exercise your rights under this warranty, you must:

Within fourteen (14) days of you becoming aware of any defect, report the following details to the dealership from which the product was purchased:

- Your name, address and contact information;
- Model, and serial number of the product; and
- A detailed description of the defect.

On receipt of the above information, the Company will allocate to your dealership an Insrg Authorisation Number (IAN).

Depending on the model type, how it is installed, and the defect reported, your nominated dealership will advise on how the warranty service will be performed. This could include, but not limited to, return of product to the dealership, return of product to the company, or a visit by qualified service technician to your poolside.

If advised to return the product, place the defective product in secure packaging, clearly label it with the IAN number allocated and send it to the address of the authorised service agent which will be advised by your dealership.

The Company will not be liable for any transportation costs, or in the event that a poolside call is arranged with an authorised service technician, costs of technician's travel time if the defect is found not to be covered by the consumer guarantees.

In the case of returned product, the authorised service technician or dealership will contact the purchaser when the product has been repaired and is ready for collection.

The Company will repair or replace at its absolute discretion your product at no cost for parts or labour in accordance with the terms stated in this warranty provided that the reported defect is able to be located by the technical staff assigned to the product. If the technical staff is unable to locate the defect, you may be liable to pay for the cost of the technician's travel time and labour.

Parts replaced under warranty do not extend the warranty period(s).

Commercial Installations.

Commercial installations are defined as installations where the pool user pays for the use of the pool either directly or indirectly through hiring, renting of accommodation or membership of gym, health club or public pool and where the equipment is operating for more than 12 hours per day. In installations as above, the warranty period is limited to 1 year.

On commercial installations the warranty periods are:

Controller:	3 years
Cell:	8000 hours
pH and ORP Sensors:	3000 hours
Squeeze tube assembly:	1000 hours

The benefits under this warranty are in addition to your rights and remedies available under the Australian Consumer Law.

Insnrng Product Security Statement

This statement summarises the security principles used in Insnrg pool automation products and the company's commitment to maintaining the security of connected devices.

Security Architecture

Insnrg pool automation appliances communicate with a central automation controller rather than connecting directly to the internet. This controller-centric architecture reduces device exposure to external networks and limits potential attack surfaces.

Communication between appliances and the controller uses encrypted wireless messaging, while the controller communicates with Insnrg cloud services using secure TLS connections.

Default Password Policy

Insnrg products do not rely on universal default passwords for network access. The system architecture avoids direct internet exposure of appliances and uses controlled device pairing and controller-mediated communication.

Security Update Support Period

Insnrg provides security updates for supported products for a minimum period of five years from the product release date. Updates may include firmware improvements, security patches, and cloud platform enhancements.

Vulnerability Reporting

Insnrg welcomes responsible disclosure of potential security vulnerabilities. Security researchers and customers can report issues to:

iotsecurity@insnrg.com

Reports should include product details, a description of the issue, and steps required to reproduce the vulnerability where possible.

Commitment to Security

Insnrg continuously reviews and improves product security as part of its product development process. Security considerations are incorporated into system architecture, firmware updates, and cloud platform operation.



We know that you will get many years of enjoyment from this product.

We pride ourselves on developing products that are specifically created for your backyard lifestyle. We are continuously developing new products and ideas to make pool ownership easier and fun.

Should you wish to keep updated with our progress and hear first hand our new products and developments, please feel free to stay in touch by using any or all of the below methods:

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Clayton, VIC, 3168

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WEBSITE

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POOL AND SPA APPLIANCES