Gecko waterlab

Technical Integration Guide



Table of contents

1. WARNINGS....4

2. Introduction....7

3. Accessory Kit....8

4. Installation and Connections....9

4.1 General setup in spa....9

4.2 Installation of the waterlab monitor....11

4.3 Installation of the chamber in the spa....12

5. Maintenance....14

5.1 Cleaning Instructions....14

5.2 Test Strips....14

5.3 Troubleshooting minor issues....15

5.4 Calibration....15

6. Logistics....16

6.1 Storage....16

6.2 Handling....16

6.3 Potential failure modes and causes....17

7. Troubleshooting....18

7.1 Water Acquisition (CO Module) button and LED status (currently in development)....18

8. Specifications....19

9. Gecko Alliance Warranty for Gecko waterlab....21

9.1 Limited Warranty Statement....21

9.2 Probe and Sensor Warranty – Special Conditions.....22
9.3 Exclusions Specific to the waterlab probe :.....22
9.4 General Exclusions.....23
9.5 Warranty Return Process.....23
9.6 For Claims made by OEM Customers :.....23
9.7 For Claims made by Non-OEM Customers (Dealers, Installers, End Users):.....24
9.8 Limitations of Liability.....24
9.9 Contact Information.....24

10. Appendices.....25

Appendix A– Mechanical Drawing.....25
Appendix B – CAD Drawings.....27
Appendix C – Revision History.....28

1. WARNINGS

Before installing or connecting the unit, please read the following

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT DISMANTLE THE UNIT. THERE ARE NO USER SERVICEABLE PART INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

IMPORTANT SAFETY INSTRUCTION: FOR YOUR OWN SAFETY PLEASE READ THE FOLLOWING IMPORTANT SAFETY INSTRUCTION CAREFULLY BEFORE ATTEMPTING TO CONNECT THIS UNIT TO THE MAIN POWER SUPPLY. THEY WILL ALSO ALLOW YOU TO GET THE BEST PERFORMANCE AND PROLONG THE LIFE OF THE UNIT.

LIABILITY DISCLAIMER

THE RECOMMENDATIONS PROVIDED BY GECKO WATERLAB ARE INTENDED FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON THE WATER SAMPLE DATA AT THE TIME OF ANALYSIS. IT IS THE RESPONSIBILITY OF THE USER TO THOROUGHLY READ AND FOLLOW THE MANUFACTURER'S INSTRUCTIONS FOR ANY CHEMICALS OR PRODUCTS BEFORE ADDING THEM TO THE SPA. THE GECKO WATERLAB CANNOT BE HELD LIABLE FOR ANY DAMAGES OR ISSUES ARISING FROM IMPROPER USE OF CHEMICALS OR PRODUCTS, FAILURE TO FOLLOW PRODUCT GUIDELINES, OR INACCURATE WATER TESTING RESULTS. ALWAYS CONSULT THE PRODUCT'S GUIDELINES AND SEEK PROFESSIONAL ADVICE WHEN NECESSARY TO ENSURE THE SAFE AND PROPER MAINTENANCE OF YOUR SPA.

READ THESE INSTRUCTIONS.

* CLEAN ONLY WITH DRY CLOTH. BEWARE THE APPLICATION OF SOME PRODUCTS COMMONLY USED AGAINST CORROSION (SUCH AS WD-40 FAMILY PRODUCTS) AS THEY COULD DAMAGE THE ENCLOSURE, DUE TO A NEGATIVE CHEMICAL REACTION BETWEEN SOME INDUSTRIAL OILS AND ITS PLASTIC ENCLOSURE. ANY OTHER MATERIALS WHICH MAY COME IN CONTACT WITH THE ENCLOSURE MUST BE CAREFULLY EVALUATED UNDER END USE CONDITIONS FOR COMPATIBILITY.

* DO NOT INSTALL NEAR ANY HEAT SOURCES.

* ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

* REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL. SERVICING IS REQUIRED WHEN THE APPARATUS HAS BEEN DAMAGED IN ANY WAY, SUCH AS POWER-SUPPLY CORD OR PLUG IS DAMAGED, LIQUID HAS BEEN SPILLED OR OBJECTS HAVE FALLEN INTO THE APPARATUS, DOES NOT OPERATE NORMALLY, OR HAS BEEN DROPPED

WARNINGS: BEFORE INSTALLING OR CONNECTING THE UNIT, PLEASE READ THE FOLLOWING

* DO NOT DISASSEMBLE OR ALTER THE APPARATUS

* DO NOT USE FOAM TO ISOLATE THE UNIT

* TURN POWER OFF BEFORE MODIFYING ANY CABLE CONNECTION IN THIS UNIT

* TURN POWER OFF BEFORE CLEANING OR SERVICING THIS UNIT

* DO NOT SERVICE THIS PRODUCT YOURSELF

* ANY DAMAGED CABLE MUST BE IMMEDIATELY REPLACED BY QUALIFIED PERSONNEL.

* THESE PRODUCTS MUST NOT BE INSTALLED IN PROXIMITY OF HIGHLY FLAMMABLE MATERIALS.

* IMPROPER WIRING MAY CAUSE DAMAGE TO THIS CONTROL SYSTEM. READ AND FOLLOW ALL WIRING INSTRUCTIONS WHEN CONNECTING TO POWER SUPPLY.

* 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.

* CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.

* MEANS FOR DISCONNECTION MUST BE INCORPORATED IN THE FIXED WIRING IN ACCORDANCE WITH THE WIRING RULES.

* PARTS INCORPORATING ELECTRICAL COMPONENTS, EXCEPT REMOTE CONTROL DEVICES, MUST BE LOCATED OR FIXED SO THAT THEY CANNOT FALL INTO THE BATH OR SPA.

* PARTS ARE TO BE INSTALLED IN THE CORRECT ZONE AND EQUIPOTENTIAL BONDING CARRIED OUT IN ACCORDANCE WITH THE WIRING RULES.

* CLEARANCE AND MINIMUM DISTANCE BETWEEN THE VARIOUS PARTS OF THE APPLIANCE AND THE SURROUNDING STRUCTURE ARE NOT SPECIFIED AS LONG AS THEY ARE SUFFICIENT SO THAT THE AMBIENT TEMPERATURE AROUND THE CONTROLLER DOES NOT EXCEED 60°

DISPOSAL OF THE PRODUCT

THE APPLIANCE (OR THE PRODUCT) MUST BE DISPOSED OF SEPARATELY IN ACCORDANCE WITH THE LOCAL WASTE DISPOSAL LEGISLATION IN FORCE.

COMPATIBILITY REQUIREMENTS

Gecko waterlab monitor is connected to Gecko smartbox.

Aeware®, Gecko®, and their respective logos are Registered Trademarks of Gecko Alliance Group.

Gecko smartbox™ logos are Trademarks of Gecko Alliance Group.

All other product or company names that may be mentioned in this publication are tradenames, trademarks or registered trademarks of their respective owners.

2. Introduction



Peace of mind
Avoid unpleasant surprises! Access to exact water measurements from anywhere without color interpretation. Continuous water monitoring with alerts and reporting allows you to minimize risk of losing water.

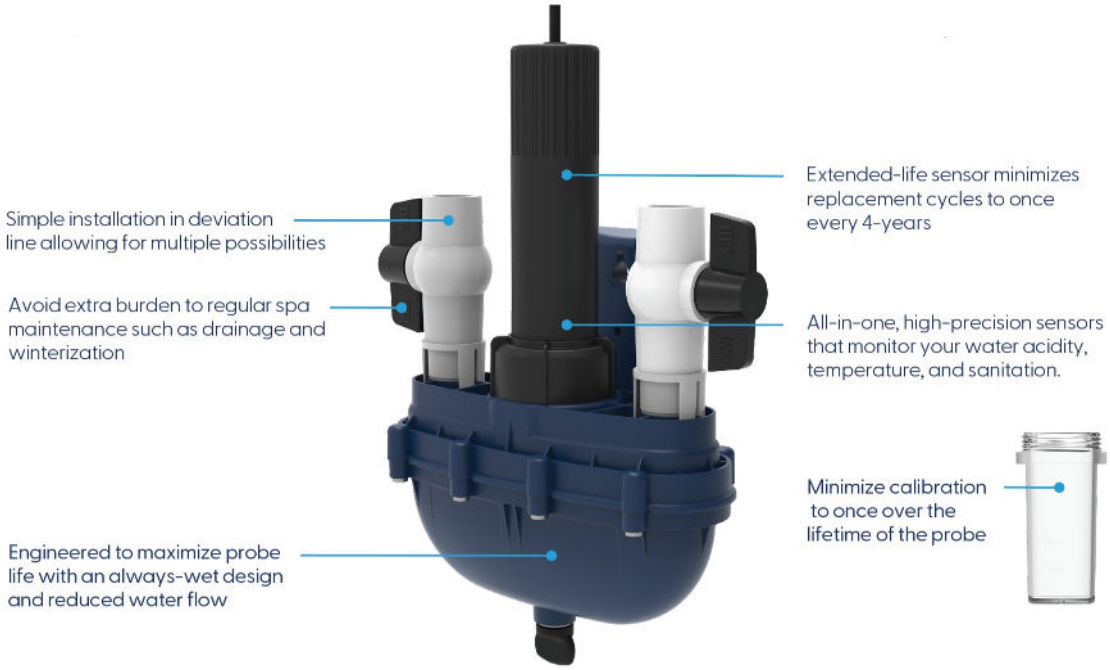
Simple to use
No need for a chemistry degree! Simply receive clear and easy-to-follow instructions to maintain crystal-clear water on a single app to control your spa.

Set & forget solution
Don't replace one maintenance burden for another with an all-in-one 4-year probe calibrated once through the lifespan.

3. Accessory Kit

Purposely designed sensing chamber for seamless under-the-spa inline integration.

Hight-durability probe ensures minimal under-spa intervention



Included Products :

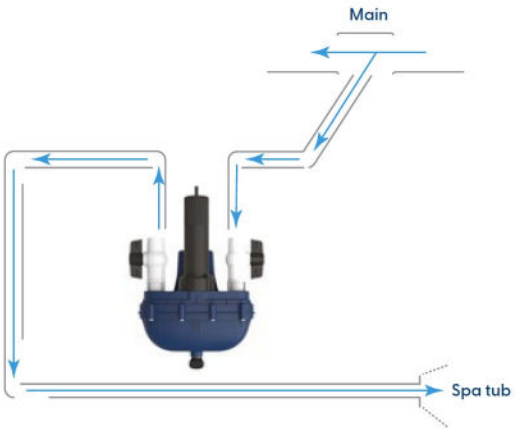
- Gecko waterlab module
- Gecko waterlab probe
- Gecko waterlab probe storage bottle
- Gecko waterlab chamber

4. Installation and Connections

4.1 General setup in spa

Install the chamber on a dedicated bypass and connect the outlet directly to the spa tub.

- The chamber must be installed after the filter.
- The chamber must be installed **before** any water treatment device (UV, Ozonator, etc.).
- Piping and hardware are at the discretion of the installer.



Our recommandations :

1. Use 3/8-inch, 1/2-inch, or 3/4-inch tubing for the deviation line to the chamber.
2. Use PVC piping solvent glue to install parts on reading chamber valves.
3. The minimum recommended flow in the chamber is 0.5 GPM.

Important notice

- The probe must be kept in temperature above 0°C (32°F).
- The probe must avoid long air exposure (over 15 min).
- Prior to any installation procedures, turn off the power of the spa**.**



Chamber installation position and orientation

The chamber must be accessible for valve manipulations, draining and probe installation.

The chamber should be oriented so that the probe and valves are at a vertical angle of +/-5° in any direction.

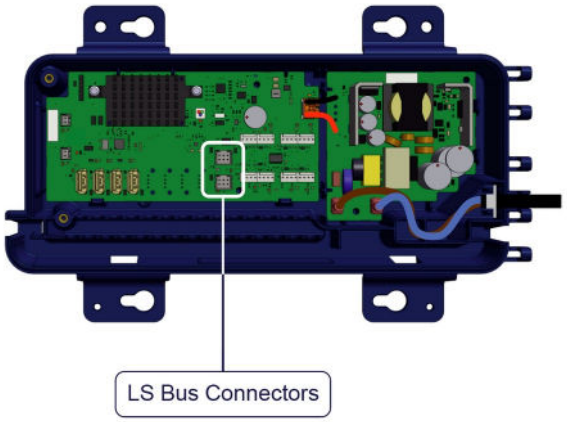
This ensures correct probe functioning and allows air to flow out of the chamber.

4.2 Installation of the waterlab monitor

Prior to any installation procedures, turn off the power of the spa

Install the waterlab monitor unit close to the waterlab chamber (max.~34”).
Screw the CO module with a #8 pan head screw and leave some slack on the cables.

Connect the waterlab monitor cable (AC input and communication link) into an available port of the Gecko smartbox (Low speed bus (LS) connector (type Hirose 6 pins)).



4.3 Installation of the chamber in the spa

Secure the chamber in the spa (2 ways)

Use 2x #8 screws through the holes in the support.
or
Use 2x 8-32 screw to use the 2 fixations in the back of the chamber support.



Install the desired size barb fittings provided on the two valves

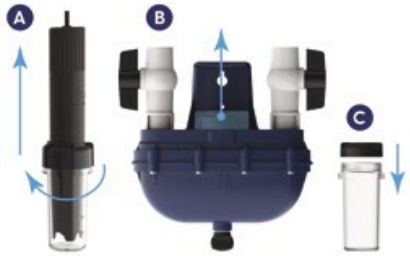
Ensure that the valves are closed before installing the tube to the chamber system.

Note: There is no specific flow direction in the chamber. The inlet and outlet can be connected to any valve.



A- Remove the probe from its storage bottle
B- Remove the top cover of the chamber
C- Screw it on top of the storage bottle once the probe has been removed

Important notice:
The probe must be kept in temperature above 0°C (32°F)
The probe must avoid long air exposure (over 15 min)

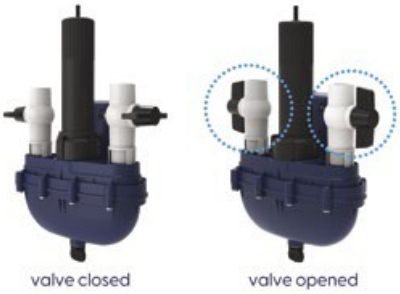


Slide the probe in the chamber and handscrew the nut



Ensure the chamber valves are open and fillthe spa

Fill the spa or open the proper valve to let the water circulate in the chamber.



Plug the probe cable connector to the short cable on the waterlab monitor)



Follow further instruction on the app

Note : After startup, the readings should stabilize within 30 minutes after water circulation begins in the chamber.



5. Maintenance

5.1 Cleaning Instructions

The solution used to clean pH/ORP electrodes depends on the presence of possible contaminants. pH/ORP electrodes may show slow response due to sensor coatings or reference clogging. Use the guide below to choose the appropriate cleaning solution options :

- For general cleaning: Soak the pH/ORP electrode in 0.1 M HCl or 0.1 M HNO3 for 20 minutes. Alternatively, an ORP electrode's platinum or gold sensor plate or band can be swabbed with an isopropyl or ethyl alcohol if convenient.
  Rinse well in deionized or tap water before use.
- For removal of protein deposits: Soak the pH electrode in a solution containing 1% pepsin and 0.1M HCl for 15 minutes to 1 hour depending on how dirty it may be. Rinse well in deionized or tap water before use. (NOTE: Pepsin is readily available as a powder from a lab supply house).
- If it is likely that the electrode was stored dry for an extended period and the reference junction may be dried or have the crystal formation
  in the pores, soaking the electrode in warm soaking/storage solution (~50 °C) may accelerate the reconditioning of the reference junction.

After any of the cleaning procedures, it is good practice to thoroughly rinse the electrode with deionized water, recondition, and recalibrate the electrode.

5.2 Test Strips

Use of Test Strips

Although Gecko waterlab provides continuous, automated water analysis, test strips remain necessary for initial calibration, periodic recalibration, and measurement of parameters not covered by the probe. Their use ensures long-term accuracy and balanced water chemistry.

Ordering Test Strips

Recommended test strips can be ordered directly through the Gecko App. This ensures compatibility with your system and supports optimal monitoring performance.

5.3 Troubleshooting minor issues

Improper conditioning may involve the glass pH sensor not being properly “hydrated”, or the reference junction not fully prepared for ion - sharing. For example, the pores of the reference junction may have dried potassium chloride crystals that need to be wetted to “recharge” the salt bridge function of the reference junction. Signs of improper conditioning may be:

1) Inaccuracy of a pH electrode soon after calibration

2) Unstable, erratic, or extremely drifty readings

3) Lack of signal, or over- range situation if the reference junction is not working at all (meter dependent)

If it is likely that the electrode was stored dry for an extended period and the reference junction may be dried or have the crystal formation described above in the pores, soaking the electrode in warm soaking/storage solution (~50 °C) may accelerate the reconditioning of the reference junction. However, prolonged drying conditions could severely damage the glass pH sensor. After conditioning the electrode, rinse with deionized water. The electrode is ready for calibration and measurement.

5.4 Calibration

pH Electrodes

Since glass pH electrodes measure the H+ (hydrogen ion) concentration (or activity) relative to their reference half- cells, they must be calibrated once during its lifetime (after two years of use) to ensure accurate, repeatable measurements. It is important to use reliable pH Buffers to calibrate your pH electrode. For more information follow the steps present in the Gecko app.

6. Logistics

6.1 Storage

The pH or ORP Electrode’s sensing end should never be stored dry. Always maintain moisture at the sensor and reference junction. Proper electrode storage maximizes electrode performance and extends electrode life. It is best to store electrodes in clean containers with its storage bottle filled with soaking liquid. Oftentimes a soaker bottle will have a sponge or cotton ball in the bottom – the purpose of the sponge is to maintain some solution in the event of a spill. However, it is best to store the electrode with solution present. Do not store an electrode in deionized water - this will cause ions to leach out of the pH glass sensing bulb and the reference junction, destroying the electrode over time. Improper storage will cause the same type of issues mentioned in the troubleshooting minor issues section mentioned above.

After a few months of storage, check the condition of the probe to detect any issues. If there is mold or crystal formation, clean the probe and replace the storage solution

6.2 Handling

During shipment it is possible for air bubbles to form in the glass pH sensing bulb. The presence of such a bubble can cause a host of problems on the meter display ranging from inaccuracy to instability, to no reading at all. To remove air bubbles, shake the electrode’s sensing end down in the same manner as a clinical thermometer until the bubble is dislodged and the glass sensor bulb is filled with solution. This is not an issue for ORP Electrodes. Rinse electrodes with deionized water (distilled or deionized water) before and after measuring a sample. Blot the end of the electrode with lint - free paper to remove excess water.

NOTE: Never wipe or rub the electrode to remove excess water - wiping can create static charges that interfere with correct pH measurement.

6.3 Potential failure modes and causes

Cracked glass membrane:
Reading could be all over the range or none

Slope out of range:
Inaccurate reading: when slope becomes low, pH becomes high in acid and low in base

Impedance out of range:
The pH response can become sluggish or non-stable

Biofouling:
The pH can become erratic

7. Troubleshooting

7.1 Water Acquisition (CO Module) button and LED status (currently in development)



The **Gecko waterlab** monitor contains a button with a visible LED status.
The main purpose of the LED is to identify the status of the **Gecko waterlab** probe or as mentioned in the application section, enter specified modes such as calibration mode or take on demand samples.

LED Button troubleshooting

Blinking blue LED

This is the normal state of the Water Acquisition button. For any other colors or patterns, refer below for troubleshooting.

8. Specifications

Environmental ratings	Gecko waterlab probe	Gecko waterlab monitor	Gecko waterlab chamber
Operating temperature	32°F (0°C) to 176°F (80°C)	-4°F (-20°C) to 140°F (60°C)	Normal spa water temperature range. No freezing water.
Storage temperature	32°F (0°C) to 176°F (80°C)	-22°F (-30°C) to 185°F (85°C)	No freezing water.
Humidity	-	Up to 85% non-condensing	-
Level of waterproofing	-	IPX5	-

Technical specifications	Gecko waterlab probe	Gecko waterlab monitor	Gecko waterlab chamber
Weight	1.2 lbs (552.5 g)	0.7 lbs (320.5 g)	1.4 lbs (618 g)
Dimensions (W × H × D) (See Mechanical Drawing section)	-	3.87" x 5.31" x 1.65" (98 x 135 x 42 mm)	9.05" x 7.12" x 4.25" (230 x 181 x 108 mm)
Power requirement	-	12Vdc/70mA	-
Chamber Max pressure	-	-	18psi

Regulatory Certifications

Region	Standard(s)
Canada	CSA C22.2 No. 218.1
United States	UL 1563 UL 1081
Europe	EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021 + A16:2023 EN IEC 60335-2-60:2023 + A11:2023 EN IEC 55014-1:2021 EN IEC 55014-2:2021 EN 62233 :2008
Australia / New Zealand	AS/NZS 60335.2.60:2018 AS/NZS 60335.1:2020 +A1+A2(AU)+COR1(NZ)
EMI / EMC	FCC part 15 subpart B ICES-003 Issue 7 (2020) EN IEC 55014-1 (2021) EN IEC 55014-2 (2021)

List of compatible devices and systems

- Gecko smartbox

9. Gecko Alliance Warranty for Gecko waterlab

Effective Date: June 2025
Applies To: Gecko waterlab.

9.1 Limited Warranty Statement

GECKO ALLIANCE (“GECKO”) WARRANTS that the waterlab shall be free from defects in workmanship and materials for a period of **three (3) years** from the date of installation, provided that this period shall not exceed fourty two (42) months from the manufacturing dateof the product.

The waterlab probe, power supply, communication cables, and accessories (if sold separately) are warranted to be free from defects in workmanship and materials for a period of **three (3) year** from the date of installation, provided that this period shall not fourty two (42) months from the manufacturing date of the product.

No other express warranty is given and no affirmation of the seller, by words or action, shall constitute a warranty.

GECKO MAKES NO WARRANTY OF MERCHANTABILITY WITH RESPECT TO THE GOODS COVERED HEREUNDER, OR THAT SUCH GOODS ARE FIT FOR ANY PARTICULAR PURPOSE.

GECKO SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL COSTS OR DAMAGES INCURRED BY THE PURCHASER OR OTHERS, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOST PROFITS, GOODWILL, INTERRUPTION OF BUSINESS, OR ANY OTHER INJURY OR DAMAGE NOT EXPRESSLY COVERED UNDER THIS LIMITED WARRANTY. HOWEVER, THIS LIMITATION ON CONSEQUENTIAL DAMAGES SHALL NOT APPLY TO DAMAGES FOR INJURY TO THE PERSON.

9.2 Probe and Sensor Warranty – Special Conditions

Limited Warranty (3 Years)

The waterlab probes are warranted for 36 months against defects in material and workmanship under normal use and proper maintenance.

9.3 Exclusions Specific to the waterlab probe :

(a) The 24-hour recalibration and diagnostic check following reconnection identifies malfunction and/or damage caused by mishandling or improper storage.

(b) The user fails to comply with the storage and handling requirements specified in the product documentation.

(c) The Product is returned to Gecko but is functional and can be calibrated in standard solutions.

(d) The Product exhibits normal wear and tear but no other warrantable defects.

(e) The Product is damaged due to accident, disaster, or force majeure events.

(f) The Product is misused or neglected by Gecko.

(g) The Product is affected by external causes such as : Power failures, electrical surges, exposure to high voltage or static electricity.

(h) The Product is installed, removed, used, maintained, stored, or handled improperly by Gecko or third parties, including : the user fails to follow Supplier’s instructions or guidelines regarding proper use and maintenance.

(i) The Product operates outside of specified environmental or use conditions.

(j) The Product is in contact with unapproved materials, chemicals, or other products.

(k) Damage is caused by bio-fouling (e.g., mold growth) during installation or storage.

(l) The Product is submerged deeper than the flange (the Product’s cable is not waterproof).

9.4 General Exclusions

- Products that have been modified or repaired by unauthorized parties.
- Cosmetic issues that do not affect performance.
- Damage from misuse, abuse, neglect, or accidents.
- Operation outside Gecko specifications.

9.5 Warranty Return Process

If the Product is deemed to be defective, please contact Gecko customer service and request a “Product Return Form Manufacturers” where you will indicate:

- The Product part number
- Description of the problem
- Where the product comes from : field or production line.
- Once filled in, the form must be emailed to warranty@geckoal.com
- Gecko will send back a return merchandise authorization number (RMA#), which must be added to the “Product Return Form Manufacturers”.
- The Product must be returned to Gecko’s designated repair center with the following :
- The RMA number on every box ;
- A copy of the OEM Product Return form ;

Wrap the returned Product very carefully so it isn’t physically damaged in transit. GECKO may invoice Customer for product damage if the product is not properly packaged.

9.6 For Claims made by OEM Customers:

- GECKO will conduct testing on the returned product.
- If the product is found to be defective, GECKO will credit 100% of the current product purchase price.
- If the product is not deemed defective by Gecko, it will be returned to the customer in its current condition, with the associated charges borne by the claimant.

9.7 For Claims made by Non-OEM Customers (Dealers, Installers, End Users):

- GECKO will conduct testing on the returned product.
- If the product is found to be defective, GECKO will replace it.
- If the product is not deemed defective by Gecko, it will be returned to the customer in its current condition, with the associated charges borne by the claimant

A technical report and a service invoice will be sent by mail, and a copy of the technical report will be included with the returned product (if applicable).

Any credit may only be applied toward future purchases. No refunds will be issued.

Ground transportation costs for products covered by this limited warranty, to and from the designated GECKO repair center, will be covered by GECKO.

Returns without an RMA number may be refused. Proper packaging is essential to prevent damage during transportation. Gecko is not responsible for damage that occurs during shipping due to inadequate packaging.

9.8 Limitations of Liability

This warranty is non-transferable and applies only to the original purchaser.

Gecko's liability is limited to the repair or replacement of the product.

Gecko is not liable for indirect, incidental, or consequential damages, including water damage, downtime, or lost productivity.

9.9 Contact Information

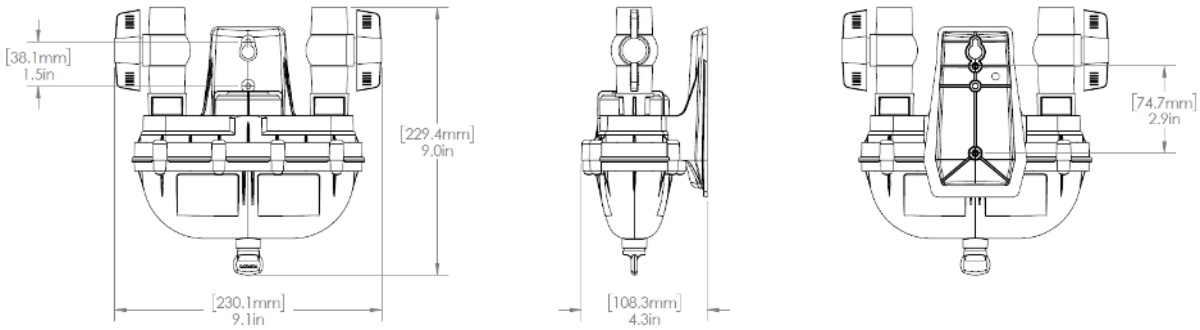
Gecko Alliance Group
450 des Canetons St.
Québec (Québec) G2E 5W6, Canada
+1 (800) 78-GECKO
www.geckoalliance.com

10. Appendices

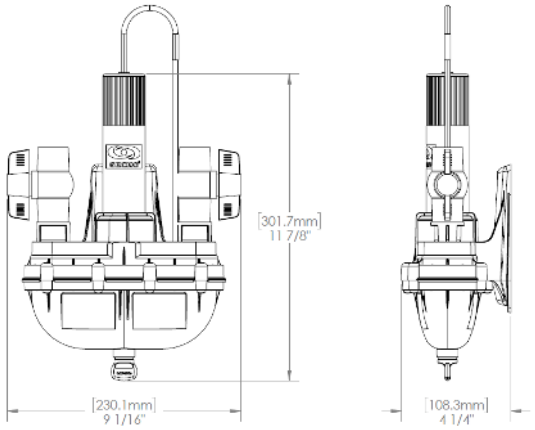
Appendix A– Mechanical Drawing

The following mechanical drawings provide the overall dimensions and mounting details of **Gecko waterlab**.

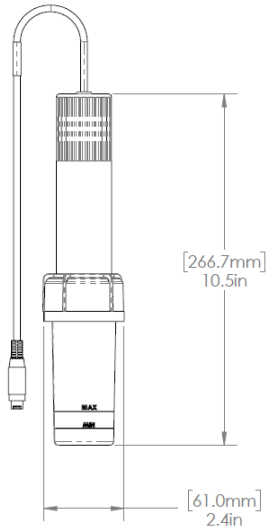
Gecko waterlab chamber



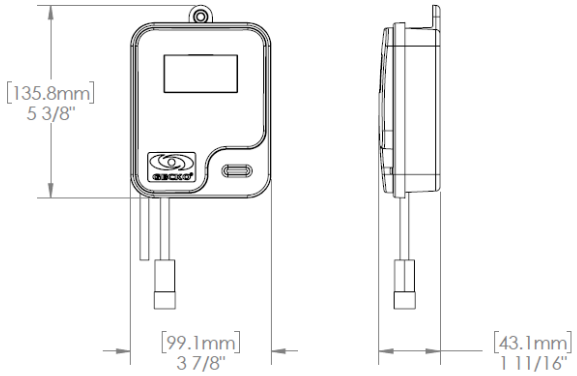
Gecko waterlab chamber and probe



Gecko waterlab probe and storage bottle



Gecko waterlab monitor



Appendix B – CAD Drawings

3D CAD models are available to validate the fit of **Gecko waterlab** within the spa design. The following files are available:

- **Gecko waterlab monitor**
- **Gecko waterlab chamber with probe**
- **Gecko waterlab chamber without probe**
- **Gecko waterlab probe**