

VidaPure™ Chemical Controller VP100 and VP200 Wi-Fi



Owner's Manual



Simply intelligent water care.

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I. Introduction

A. Water Chemistry

Water chemistry is a complex science that contains many variables. These variables not only affect the water environment itself, but they can have adverse effects on your equipment as well as your health. These are only some of the factors which we follow closely to ensure the healthiest water interactions:

pH is the measurement of the acidity or basicity in an aqueous solution. A measurement below 7 is considered acid, while a measurement above 7 is base or alkaline. It is a significant factor in determining the water quality as it affects sanitizer levels, water color, and human reaction to the water.

ORP (Oxidation Reduction Potential) is the measurement of the oxidizing capacity present in water. ORP cannot be fooled by the effects of pH, total dissolved solids (TDS), stabilizers, and non-chlorine oxidizers. A typical ORP sensor measures Hypochlorous Acid (HOCl), which is the more effective component of free chlorine. A higher ORP reading equates to the sanitizer working more effectively.

Water balance is comprised of pH, calcium hardness, total alkalinity, temperature, and TDS. When water is balanced, the Langelier saturation index is 0. Values above +0.3 can lead to scaling and cloudy water, while values below -0.3 can cause corrosion of pool equipment and surfaces. If the water balance is not fixed in a timely manner, secondary effects can lead to rapidly declining water conditions that can affect the health of the water occupants.

pH and ORP work conversely to one another and are affected by other factors such as temperature and TDS that can increase the negative impacts of unbalanced water.

B. IMPORTANT SAFETY INSTRUCTIONS

1. READ AND FOLLOW ALL INSTRUCTIONS.

2. **Risk of electric shock:** Connect the controller to a dedicated ground-fault circuit interrupter (GFCI) circuit breaker.
3. Disconnect power before servicing the controller.
4. Inspect all power cords frequently. Any damaged cords should be replaced immediately to reduce the risk of injury by shock.
5. Always maintain a record of manual water chemistry readings using an accurate test kit.

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

7. Danger — Risk of injury.
 - a. Replace damaged cord immediately.
 - b. Do not bury cord.
 - c. Connect to a grounded, grounding type receptacle only.

8. **WARNING** — Risk of electric shock. Install at least 5 feet (1.5m) from inside wall of water enclosure using non-metallic plumbing.

9. Operation of this controller without a functioning flow-switch will void the NSF Certification.

10. **WARNING** — Do not install this controller where it is accessible to the public.

11. SAVE THESE INSTRUCTIONS.

C. System Components

1. VidaPure™ Chemical Controller

- a. It allows automatic monitoring of pH and ORP (sanitizer) levels through a simple, user-friendly interface, resulting in easier management of water balance in swimming pools, spas, or circulating water environments.
- b. It can be easily installed into your existing pool environment and equipment.
- c. It monitors and displays the pH and ORP levels using LEDs and digital readouts on the front panel.

In addition, four separate function buttons allow simple pushbutton control of these individual parameters:

- 1) Mode - Auto, pH Standby (programming), ORP Standby (programming),
 - 2) Set Level - pH or ORP level to be maintained,
 - 3) Dose Timer - Dose time (seconds) for each dose cycle,
 - 4) pH Cal - pH calibration for variation in pH sensors.
- d. If the pH level falls below (base feed) or rises above (acid feed) the programmed Set Level, then the controller will activate the chemical pump (left side) until the programmed Set Level is reached.
 - e. If the ORP (sanitizer) levels reach the programmed Set Level, then the controller will activate the ORP chemical pump (right side) until the Set Level is reached.

2. Flow Cell with Switch
 - a. An injection-molded flow cell with integrated flow-switch houses the pH and ORP sensors, and partners with the **VidaPure™** chemical controller to monitor the pH and ORP levels in the water.
 - b. The flow switch verifies that water is flowing during a feed cycle and sends the controller instructions to deactivate the feed if water is not flowing.
 - c. Operation of this controller without a functioning flow-switch may result in under-dosing or over-dosing of chemicals.
3. pH and ORP Sensors
 - a. pH Sensor – standard (Use only IPS Controllers part # VPPH)
 - b. ORP Platinum Sensor – standard (Use only IPS Controllers part # VPORP)
4. Fittings – for tapping installation of flow cell input/output
5. In-line Filter – installed prior to flow cell to protect switch and pH & ORP sensors
6. Tubing – 25 feet of 3/8" for providing filtered water to and from the flow cell
7. Chemical Pumps including tubing and fittings – Integrated peristaltic pumps for pH-controlling acid, and chlorine for controlling ORP (sanitizer)
8. Mounting Board – ABS plastic with mounting holes and stainless hardware (18" x 10")

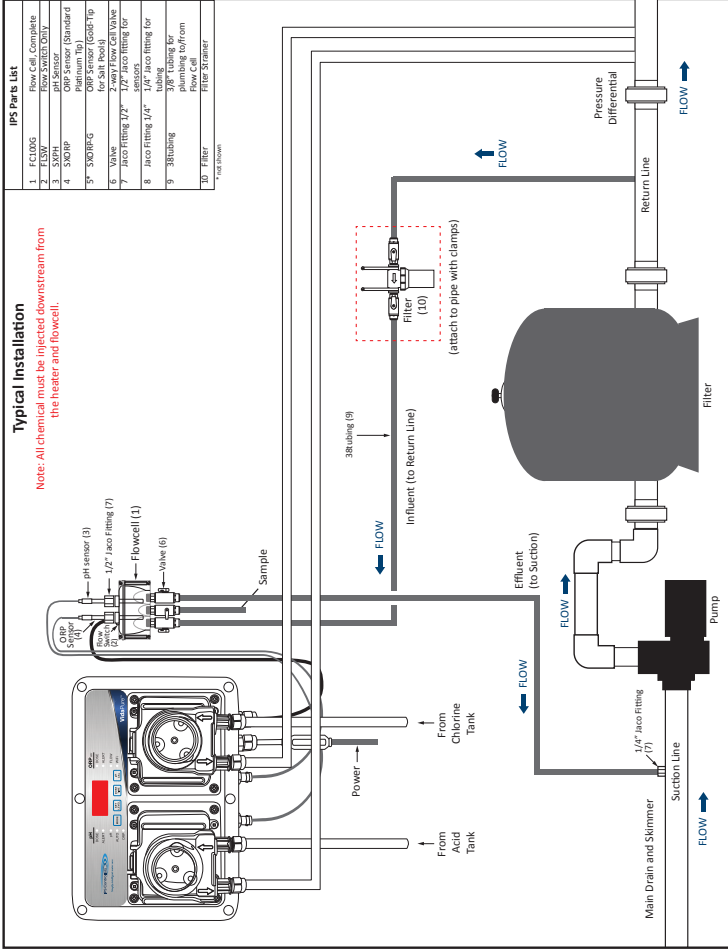


Figure 1: This is a typical installation using IPS' system package, which consists of a VidaPure™ Chemical Controller, flow cell with switch, sensors, and two integrated chemical pumps.

D. Specifications

System Dimensions: 18" L x 10" W x 6.5" D

Electrical Input/Output: 120 VAC/24V DC (Transformer provided)

pH Set Level: 7.0 to 8.0

ORP Set Level: 400 mV to 900 mV

Dose Timer: Off, Continuous, or Timed cycle

High Alert: pH 8.0, ORP 900 mV

Low Alert: pH 7.0, ORP 100 mV

Readout: Function LED and numerical digital displays that alternates between displaying pH and ORP mV

Alarm: Red alert LEDs

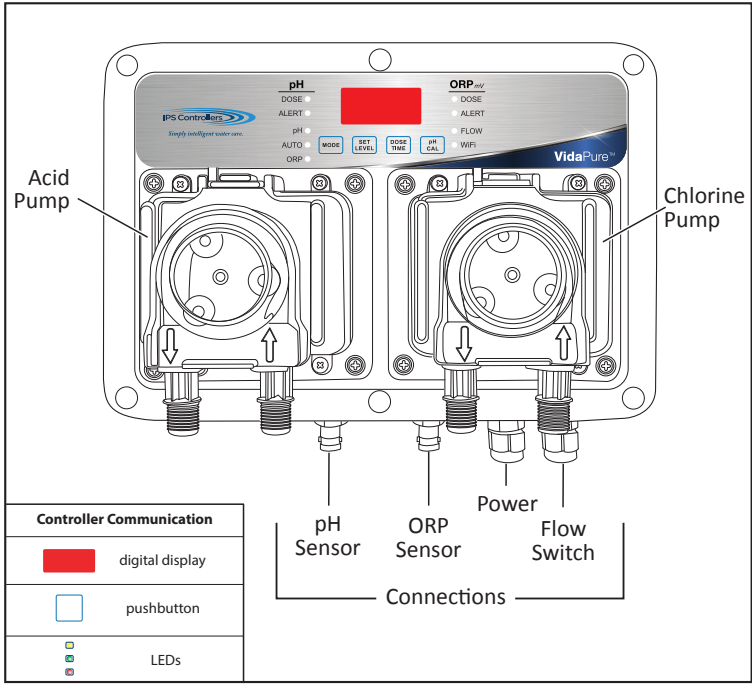


Figure 2: VidaPure™ Controller Components Connections

E. Controller Panel Descriptions

1. Digital Displays and Function LEDs
 - a. pH
 1. Alert - red LED
 2. Dose - green LED
 - b. ORP
 1. Alert - red LED
 2. Dose - yellow LED

2. Mode - pushbutton adjustments
 - a. Auto - red LED
 - b. pH standby - green LED
 - c. ORP standby - yellow LED
 - d. OFF mode - In standby, press and hold Mode button for 3 seconds to turn controller off.
3. Flow - green LED
4. Set Level – pushbutton adjustments (up/down)
5. Dose Time – pushbutton adjustments (up/down)
6. pH Cal – pushbutton adjustments (up/down)
7. Electrical Connections (peripherals)
 - a. AC power - 120 VAC, 50-60 Hz
 - b. Flow - from flow cell
 - c. pH sensor - BNC connection
 - d. ORP sensor - BNC connection

II. Installation

A. Setup

1. Turn off all peripheral equipment such as heaters and pumps.
2. Relieve pressure from the filtration system.

B. Tools

1. Cordless drill
2. 1/4" NPT Tap
3. 7/16" drill bit
4. Masonry drill bit and anchors, or other appropriate fasteners
5. 13/16" wrench or channel-lock pliers
6. Water-tight outlet cover for outdoor installations

C. VidaPure™ Controller Procedure

1. Location
 - a. Wall area with easy access
 - b. At least 10 feet from water edge
 - c. Within 15 feet of GFCI power source
2. Mounting

Note: The VidaPure™ controller and flow cell are factory mounted to the ABS board for convenience.

- a. Securely mount ABS mounting board with VidaPure™ controller and flow cell on wall (vertical installation).
- b. Drill a 7/16" hole and tap a 1/4" NPT port to a location downstream from the filter and upstream from any heater or chemical introduction points. Install a tubing connector (included) and flex tubing to be connected to the left-side flow cell port containing the flow switch. The in-line filter will also be installed in this line in an easily-accessible location.

Note: Verify that the filter is installed with directional arrows pointing in the direction of the flow (towards flow cell).

- c. Drill a 7/16" hole and tap a 1/4" NPT port to a location that is subject to vacuum or reduced pressure. Install a tubing connector (included) and flex tubing to be connected to the right-side flow cell port. **Note: We recommend that this tubing connector be installed into the drain hole on the suction side of the pump for best performance.**
- d. Cut a 3" - 6" length of flex tubing and insert into the flow cell's sample stream port (center).

3. pH and ORP Sensors

Note: Carefully unpack the pH and ORP sensors and set aside in a clear area until ready to install into the flow cell.

- a. Verify that the **VidaPure™** controller power is OFF.
- b. Carefully remove the plastic protective bottles from the sensors and store in a separate location for future re-use.
- c. Loosen (do not remove) the top nut of the compression fittings located at the top of the flow cell and slide the glass end of each sensor (pH and ORP) into their corresponding compression fittings. Ensure that the tip is submerged into the water to within 1/2" from the bottom of the flow cell. Hand tighten each nut fitting.

4. Electrical Connections

- a. Verify that the **VidaPure™** controller power is OFF.
- b. Connect the pH sensor connector to the left BNC connector on the bottom of the controller.
- c. Connect the ORP sensor connector to the right BNC connector on the bottom of the controller.
- d. Plug 24 VAC transformer into a GFCI-protected outlet (outdoor installations should have weather-proof enclosures installed).

D. Chemical Pump Procedure

1. Pump Accessory Checklist
 - a. Six (6) Connecting Nuts, 1/4"
 - b. Six (6) Ferrules, 1/4"
 - c. Two (2) Injection Check Valves
 - d. Two (2) Weighted Suction Line Strainer, 1/4"
 - e. Two (2) 20' Rolls of Suction/Discharge Tubing, 1/4" UV Black
2. Chemical Pump Safety Warnings
 - a. Read all safety hazards warnings before installing or servicing the pumps. The pumps are designed for installation and service by properly trained personnel.
 - b. Use all required personal protective equipment when working on or near a metering pump.
 - c. Install the pumps so that they follow all national and local plumbing and electrical codes.
 - d. Use the proper product to treat potable water systems, and use only additives listed or approved for use.
 - e. Inspect tubes frequently for leakage, deterioration, or wear. Schedule a regular pump tubing maintenance change to prevent damage to pumps and/or spillage.
 - f. Pumps are not recommended for installation in areas where leakage can cause personal injury or property damage.

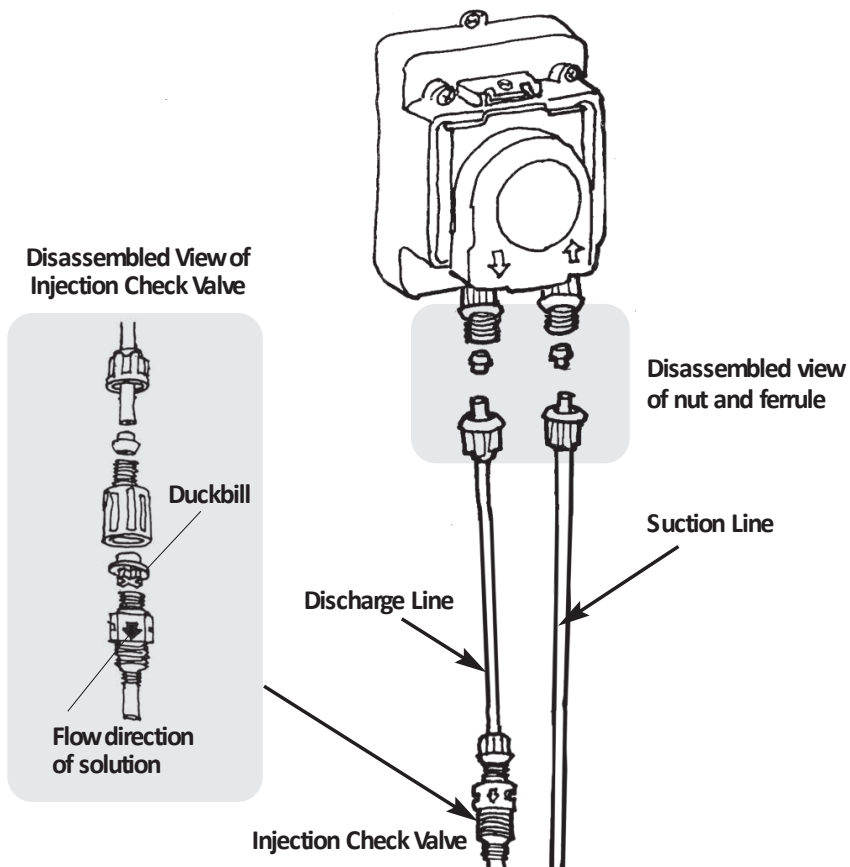


Figure 3: Chemical Pump Installation Diagram

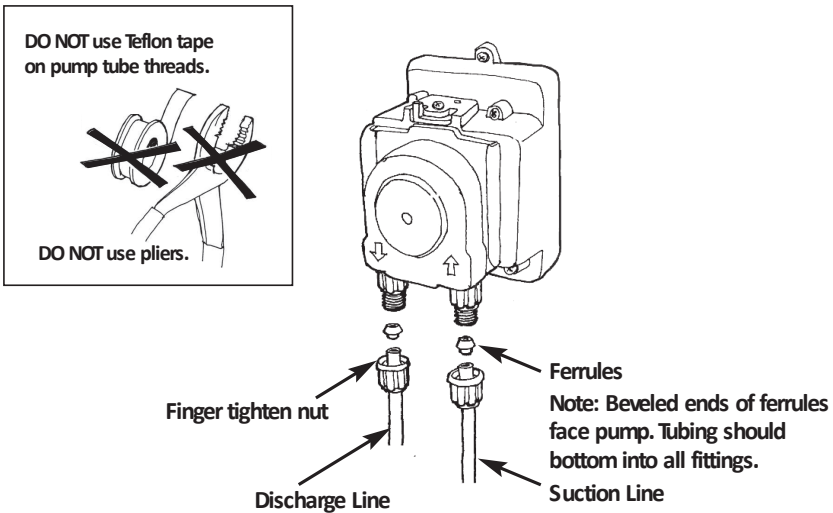


Figure 4: install Suction Line to Pump Head

3. Suction Line To Pump Head

- a. Uncoil the suction/discharge line. Use outside of solution tank as a guide to cut proper length of suction line, ensuring it will be 2"-3" above the bottom of solution tank.

Note: Allow sufficient slack to avoid kinks and stress cracks. Always make a clean square cut to assure the suction line is burr-free. Normal maintenance requires trimming.

Note: Suction lines that extend to the bottom of the tank can result in debris pickup leading to clogged injectors and possible tube failure.

- b. Make connections by sliding the line(s) through connecting nuts and ferrules, and finger tighten to the corresponding tube fittings.

- c. Finger tighten nut to the threaded tube fitting while holding the tube fitting.

Note: Over-tightening the ferrule and nut with a wrench may result in damaged fittings, crushed ferrules, and air pick up.

Note: DO NOT use thread sealant tape on pump tube connections or tools to tighten connections.

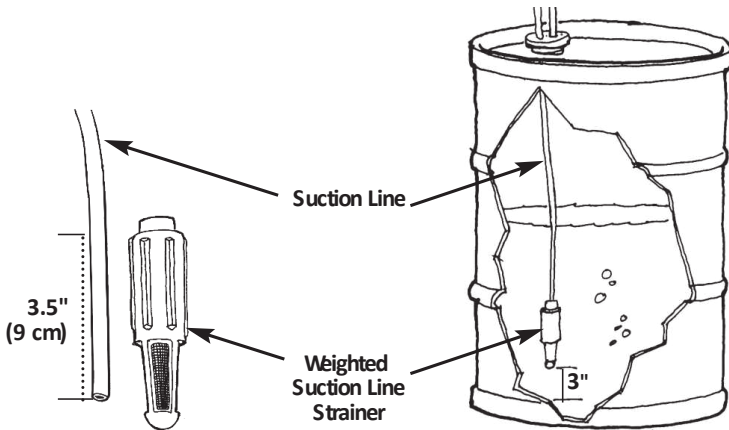


Figure 5: Install Suction Weight to Suction Line

4. Suction Weight to Suction Line

- a. Drill a hole into the bung cap or solution tank lid. Slide the tubing through and secure the weighted strainer to the line.
- b. To attach the strainer, push approximately 3.5" of suction line through the cap on the strainer body. Pull tubing to make sure it is secure.

- c. Suspend slightly above tank bottom to reduce the chane of sediment pickup.

Note: DO NOT mix additives in the solution container. Follow recommended mixing procedures according to the manufacturer.

Note: DO NOT operate pump unless additive is completely in solution. Turn pump off when replenishing solution.

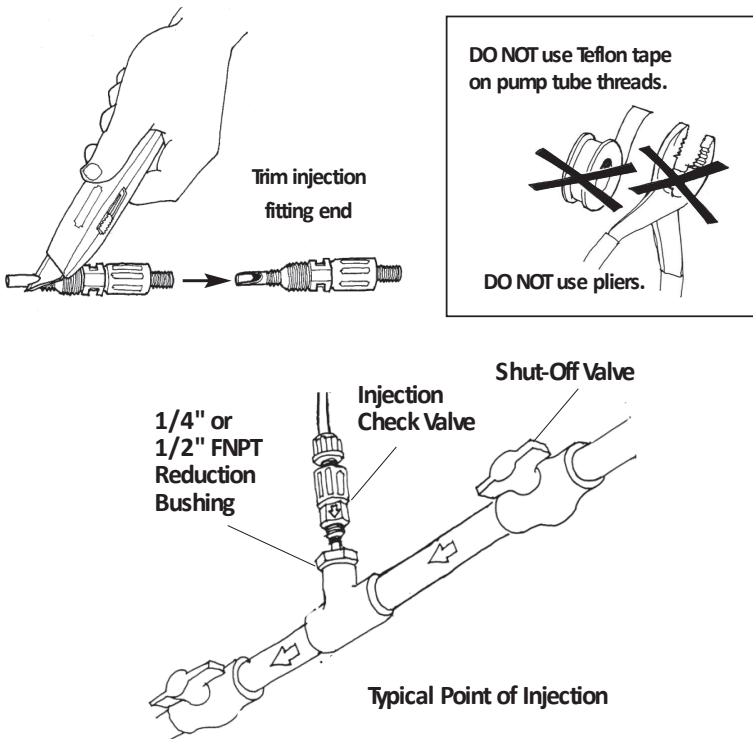


Figure 6: Install Discharge Line to Pump Head and Injection Point

5. Discharge Line to Pump Head and Injection Point
 - a. Make a secure finger-tight connection on the discharge fitting of the pump head as instructed in Install Suction Line instructions.

Note: DO NOT use thread sealant tape on pump tube connections or tools to tighten connections.

WARNING

HAZARDOUS PRESSURE: Shut off water or circulation system and bleed off any system pressure.

Note: Locate a point of injection beyond all pumps and filters or as determined by the application.

- b. A 1/4" or 1/2" Female NPT (FNPT) connection is required for installing the injection fitting. If there is no FNPT fitting available, provide one by either tapping the pipe or installing FNPT pipe tee fitting.
- c. Wrap the Male NPT (MNPT) end of injection fitting with 2 or 3 turns of threading tape. If necessary, trim the injection fitting quill as required to inject product directly into flow of water.
- d. Hand tighten the injection fitting into the FNPT fitting.
 1. Install connecting nut and ferrule to the pump discharge tubing. Insert discharge tubing into injection fitting until it reaches base of fitting.
 2. Finger tighten connecting nut to fitting.

- e. Turn pump on and re-pressurize system. Observe flow as actuated by system and check all connections for leaks.
- f. After suitable amount of dosing time, perform tests for desired readings. If necessary, fine tune dosing levels.

Note: The injection point and fitting require periodic maintenance to clean any deposits or buildup. To allow quick access to the point of injection, IPS Controllers recommends the installation of shut-off valves.

III. Operation

A. Startup and Shutdown

1. Startup

- a. Plug **VidaPure™** transformer into power outlet. For outdoor installations, ensure the use of a watertight outlet cover.
- b. Turn on the filter pump and verify the water flow through the flow cell by opening the sample port valve (center) and observing a steady stream of water. The right-side valve may need to be partially closed to produce a steady stream. **Note: Water should pass over the pH and ORP sensors for a minimum of 10 minutes to allow for accurate, stable readings of pH and ORP levels from the pool or spa.**
- c. Check for leaks and repair if necessary.
- d. Manually adjust and balance the pool or spa water to acceptable ranges using a test kit. **Note: Use a DPD based test kit to check the chlorine level.**
- e. Verify that the green Flow LED is illuminated. Both the pH and ORP dose outputs are disabled if there is no water flow.
- f. Press the Mode pushbutton momentarily to place the controller into the pH standby mode. The green pH standby LED will illuminate. Select the desired pH set level and dose time (seconds).
- g. While still in the pH standby mode, press the pH Cal pushbutton to calibrate the reading to the value observed through the manual testing of the water. **Note: Always calibrate using water from the sample port of the flow cell.**

- h. Press the Mode pushbutton momentarily to place the controller in ORP standby mode. The yellow ORP standby LED will illuminate. Select the desired ORP set level and dose time (seconds). **Note: If pH level in the pool is at desired set level, and chlorine/bromine level is at desired PPM level in the pool, the ORP Set Level should be the same as the current ORP reading when in Auto Mode.**
- i. Press the Mode pushbutton momentarily until the red Auto LED is illuminated.

2. Shutdown

Note: Each time the Mode pushbutton is momentarily pressed, the mode will cycle from Auto to pH Standby to ORP Standby, and then return to Auto mode.

- a. Press the Mode pushbutton momentarily to place the controller in pH standby mode. The green pH standby LED will illuminate, and both the pH and ORP digital displays will show dashes.
- b. Press and hold the Mode pushbutton for 2 seconds until both the pH and ORP digital displays read OFF.
- c. The **VidaPure™** controller will turn off, and the digital displays and function LEDs will go blank. The green Flow LED will be illuminated if water is flowing through the flow cell. **Note: There is still power to the VidaPure™ controller unless the transformer is unplugged.**

B. Modes and Adjustments

1. Auto

- a. This is the normal operational mode of the **VidaPure™** controller.
- b. The controller allows full operation and monitoring of both pH and ORP (sanitizer) levels.
- c. No function pushbuttons are operational in this mode.
- d. The red function LED next to Auto is illuminated.

- e. Digital display alternates the display between the pH and ORP readings.

2. pH standby

Note: While in this mode, the green pH standby LED will illuminate, both the pH and ORP digital displays will show dashes, and all Auto functions will be disabled. When a function pushbutton is pressed, the digital display will show the function.

a. Set Level

- 1. Default: 7.4 pH
- 2. Selectable range: 7.0 – 8.0 pH (in 0.1 increments)

b. Dose Timer

- 1. Default: Timed dose of 10 second pH pump energized and 5 minutes pH feed pump in delay (mixing time). In the timed dose cycle mode, the Dose LED will flash while dosing and illuminate steadily during the delay portion of the timed cycle. In continuous dose mode, the Dose LED will flash while dosing.
- 2. Selectable range: OFF, CON (continuous), and Timed (10 – 900 seconds ON and 5 minutes OFF)

c. Overfeed Timer

- 1. Preset: 30 timed cycles or 120 minutes in continuous dosing. The over feed timer does not automatically reset. It must be reset by turning the controller off and then on or cycling the mode out of Auto and back to Auto.
- 2. The Overfeed timer is interlocked with the Dose Timer selection.
 - i. If the Dose Timer is set to a timed cycle, the Overfeed Timer will count timed feed cycles. When the preset cycle limit is reached, the pH digital display will flash, and the pH output relay will de-energize.
 - Preset: 30 cycles

- ii. If the Dose Timer is set to a continuous feed mode, the Over Timer will count in minutes.
 - Preset: 120 minutes
 - 3. When the Dose Timer is changed from either timed or continuous feed, the Over Timer is reset to Default.
 - d. High Alert - Default: 8.0 pH
 - 1. Preset: 8.0 pH
 - e. Low Alert
 - 1. preset: 7.0 pH
 - f. pH Cal
 - 1. Allows +/- 0.9 pH adjustment
3. ORP standby
- Note: While in this mode, the yellow ORP standby LED will illuminate, both the pH and ORP digital displays will show dashes, and all Auto functions will be disabled. When a function pushbutton is pressed, the digital display will show the function.**
- a. Set Level
 - 1. Default: 650 mV
 - 2. Selectable range: 400 mV to 900 mV (in 5 mV increments)
 - b. Dose Timer
 - 1. Default: 10 second ORP feed pump energized and 5 minutes ORP feed pump in delay (mixing time). In the timed dose cycle mode, the Dose LED will flash while dosing, and will illuminate steadily during the delay portion of the timed cycle. In continuous dose mode, the dose LED will flash while dosing.
 - 2. Selectable range: OFF, CON (continuous), and Timed (10 to 900 seconds ON and 5 minutes OFF)

- c. Overfeed Timer
 - 1. Preset: 30 timed cycles or 120 minutes in continuous dosing. The over feed timer does not automatically reset. It must be reset by turning the controller off and then on or cycling the mode out of Auto and back to Auto.
 - 2. The Overfeed timer is interlocked with the Dose Timer selection.
 - i. If the Dose Timer is set to a timed cycle, the Overfeed Timer will count timed feed cycles. When the preset cycle limit is reached, the ORP digital display will flash and the pH pump will turn off.
 - Preset: 30 cycles
 - ii. If the Dose Timer is set to a continuous feed mode, the Over Timer will count in minutes.
 - Preset: 120 minutes
 - 3. When the Dose Timer is changed from either timed or continuous feed, the Over Timer is reset.
 - d. High Alert
 - 1. Default: 900 mV
 - e. Low Alert
 - 1. Default: 100 mV
 - f. pH Cal disabled
4. Flow
- a. The integrated flow switch is pre-wired to the controller.



Figure 7: Flow Switch Jumper

- b. The flow switch must be installed for safety reasons to prevent dosing chemicals when there is no flow in the circulation piping.

5. Factory defaults

To return the controller to the factory defaults, place the controller in Standby Mode. Turn off the controller by holding down the Mode pushbutton while in standby mode. Press and hold both the Set Level and pH Cal pushbuttons, and then press the Mode pushbutton. Both the pH and ORP displays will show "Ld". The controller will be returned to the factory default settings, and be placed in the test mode.

Return the controller to full operation by turning off the controller with the Mode pushbutton. Turn the controller on again by pressing the Mode pushbutton. **Note: Failure to complete this action will leave the controller in the test mode.**

C. Maintenance

1. Winterizing (extended shutdowns or colder climates)

- a. Turn off the **VidaPure™** controller and shut off main power to controller.
- b. Gently remove the pH and ORP sensors from the flow cell. Fill the provided protective bottles (removed during installation) with water and re-install onto each sensor, and store in a warm, secure location.
- c. Drain the water from the flow cell.

2. Cleaning the sensor tips

Note: It is important to keep the sensor tips clean to ensure accurate readings.

- a. Sensor tips should be cleaned every 6 months for residential pools and spas. Determine the necessary frequency by comparing the readings before and after the cleaning. Identical readings mean that the cleaning time can be extended.
- b. Remove power from the **VidaPure™** controller.
- c. Close the right and left valves at the bottom of the flow cell.
- d. Loosen the nut on the compression fitting and gently remove the sensor from the flow cell.
- e. Swirl the sensor tip for 5 seconds in a soapy water solution (dish soap is good) and then rinse with water. Quickly dip the tip of the sensor into Muriatic acid or white vinegar and then rinse with water. **Note: Do not touch or brush the sensor tip.**
- f. Gently re-insert the sensor into the compression fitting and hand tighten the nut.
- g. Plug in the transformer for the **VidaPure™** controller.

- h. Open the flow cell valves and wait for a few minutes for the system to stabilize and get an accurate reading. Adjust the Set Level if necessary.
 - i. If the sensor does not show the expected readings, then it must be replaced.
3. Checking the pH sensor
- a. The pH sensor must be checked every 6 months, or after any incident when the pH level goes out of range.
 - b. While still attached to the controller, place the sensor in a clean glass of tap water.
 - c. Add a small amount of acid or vinegar to the water and take a reading. It should show a low number.
 - d. Place the sensor into a solution that is higher than 7.5pH, and verify that the reading is increasing.
 - e. If the sensor does not show the indicated readings, then it must be replaced.
4. Checking the ORP sensor
- a. The ORP sensor must be checked every 6 months, or after an over-sanitization event.
 - b. Clean the sensor tip as shown in the previous section.
 - c. Place the sensor in a clean glass of tap water. The reading should show between 200mV and 400mV.
 - d. After adding a pinch of Dichlor or Trichlor into the water, the reading should show between 750mV and 800mV.
Note: if a sanitizer with high pH is used in place of Dichlor or Trichlor, the reading should show between 650mV and 750mV.
 - e. If the sensor does not show the indicated readings, then it must be replaced.

IV. VP200 Wi-Fi Setup

A. Smart Phone Wi-Fi Setup

1. Turn on the VP200.
2. Search for available Wi-Fi networks. See Figure 8.
3. Select XPicoWiFi_XXXXXX to connect.

Note: XXXXXX indicates the last six characters of the MAC/Serial # located on the XPicoWifi device, on a label near the antenna and on the inside of the controller cover (e.g. 00-80-A3-AB-01-C8).

4. After clicking Connect, enter “xpicowifi” in lower case as the network security password. Click on Join button to complete the connection. See Figure 9.
5. Once connected, open a browser window and type “192.168.0.1:8081” in the address bar. Press the Enter key. See Figure 10.
6. A dialog box will appear. Type “admin” in lower case in the User Name box and the full MAC/Serial # without dashes (e.g. 0080A3AB01C8) in the Password box. Click on Log In button. See Figure 11.

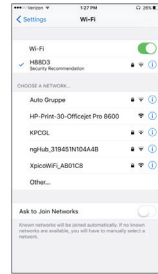


Figure 8: Available WiFi networks

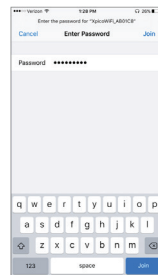


Figure 9: Network Security Password

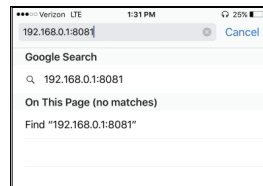


Figure 10: xPicoWiFi Web Address

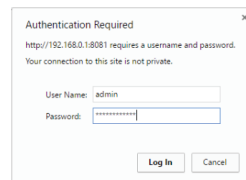


Figure 11: xPicoWiFi Login Dialog Box

7. The XPico WiFi main page will open. Click on Quick Connect at the top of the menu and select the WiFi network to be used (e.g. H88d3). See Figure 12.

8. Type in the Network Key associated with the selected Wi-Fi network.
Note: Keys are case sensitive. Click on the Submit button. See Figure 13.

9. Click on the OK button in the dialog box. Ignore the displayed warning during the final process. **Note:** The device in the warning is XPicoWiFi. See Figure 14.

10. The Wi-Fi network connection is complete, and the green remote light on the front of the controller should show as a solid green.

If the light is not a solid green, verify that the correct Wi-Fi network is selected and re-enter the network key. **Note:** Keys are case sensitive.



Figure 12: xPico WiFi Main Page

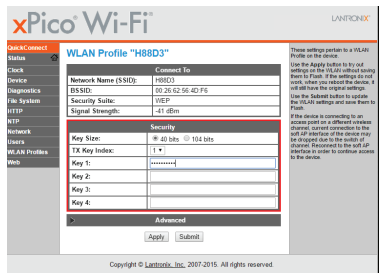


Figure 13: Wi-Fi Network Key

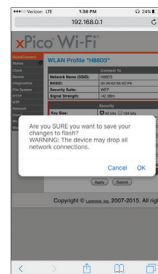


Figure 14: Complete Connection

B. Desktop/Laptop Wi-Fi Setup

1. Turn on the VP200.
2. Search for available Wi-Fi networks.
3. Select XPicoWiFi_XXXXXX to connect. See Figure 15.

Note: XXXXXX indicates the last six characters of the MAC/Serial # located on the XPicoWifi device, on a label near the antenna and on the inside of the controller cover (e.g. 00-80-A3-AB-01-C8).

4. After clicking Connect, enter “xpicowifi” in lower case as the network security password. Click on Next button to complete the connection. See Figure 16.
5. Once connected, open a browser window and type “192.168.0.1:8081” in the address bar. Press the Enter key. See Figure 17.

6. A dialog box will appear. Type “admin” in lower case in the User Name box and the full MAC/Serial # without dashes (e.g. 0080A3AB01C8) in the Password box. Click on Log In button. See Figure 18.

7. The XPico WiFi main page will open. Click on Quick Connect at the top of the menu and select the WiFi network to be used (e.g. H88d3). See Figure 19.

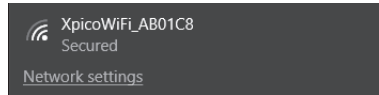


Figure 15: XpicoWiFi Connection

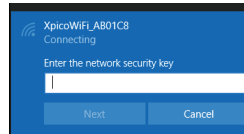


Figure 16: Network Security Password

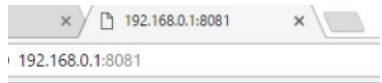


Figure 17: xPicoWiFi Web Address

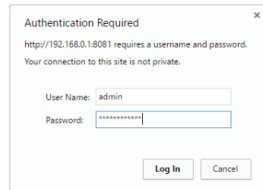


Figure 18: xPicoWiFi Login Dialog Box

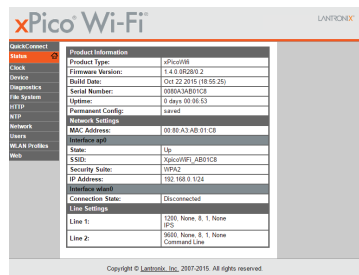


Figure 19: xPico WiFi Main Page

8. Type in the Network Key associated with the selected Wi-Fi network.

Note: Keys are case sensitive. Click on the Submit button. See Figure 20.

9. Click on the OK button in the dialog box. Ignore the displayed warning during the final process. **Note:** The device in the warning is XPicoWiFi. See Figure 21.

10. The Wi-Fi network connection is complete, and the green remote light on the front of the controller should show as a solid green. If the light is not a solid green, verify that the correct Wi-Fi network is selected and re-enter the network key. **Note:** Keys are case sensitive.

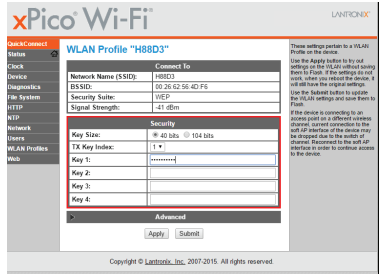


Figure 20: Wi-Fi Network Key



Figure 21: Complete Connection

C. Remote Monitoring Setup

1. New Account Registration
 - a. Go to monitor.ipscontrollers.com -> Select Register and enter a valid email address, and then select Submit. Website will send a verification email to the address entered.
 - b. Click link in email to complete registration. Once completed the account Dashboard will be displayed.
2. Adding a New Controller
 - a. Do not add a controller without first creating or selecting a Location (step b).
 - b. From the Dashboard choose Settings and then Locations. If the location for the controller already exists, select that location and then select Add Controller. If the Location does not exist select Add Location and enter the Location Name (facility) and Time Zone. Once the Location is added, select the Location and then select Add Controller.
 - c. Enter the Controller Name (Pool, Spa, Wader etc.), the MAC Address or Serial # (found on the bottom of the Left side panel of the controller). Note: all letters must be in CAPS and any character that looks like a Zero is a Zero. Choose the Model # (VP200, M920 or M920-CA) and then select Add Controller. Do not select "Existing". Allow five to ten minutes for the controller data to update completely on the Dashboard.
3. Adding Additional Users
 - a. From the Dashboard select Settings and then Controllers. Select the location and then the controller to add a user to.
 - b. Select Add Users at the bottom right of the page. Enter User's Email Address, First and Last Name. Finally, choose to allow (or not) the user to set their own Notifications and to make changes to the controller's program. Select Add User (if user does not have a registered account a verification email will be sent).

- c. The user will need to be added to each controller using the first two steps above (verification email will only be sent once).
 - d. User's dashboards will only show the controllers they have been added to.
4. Automated Daily Report
- a. To receive automated Nightly Summary select Settings and then Account from the Dashboard.
 - b. Select Email Nightly Summary and enter the email addresses for desired recipients separated by a semicolon (;).

Any questions on setup or other monitoring website features, please call 877-693-6903.

IV. Troubleshooting

A. Chlorine/Bromine level too low

1. *Set level is too low:* Check chlorine level with test kit and adjust set level as necessary
2. *Chemical feeder is empty:* Refill the feeder.
3. *Chemical check valve/injector is clogged:* Switch acid feed tube to chlorine injector to clean.
4. *Worn out squeeze tube in feed pump:* Replace the squeeze tube.
5. *Sensor malfunction:* Replace sensor.

B. Chlorine level too high

1. *Set level is too high:* Check chlorine level with test kit and adjust set level as necessary.
2. *Sensor tip is dirty:* Clean according to maintenance instructions.

C. pH level too low

1. *Set level is too low:* Check pH level with test kit and adjust Set Level as necessary.
2. *Dose Time too high:* Reduce dose time (seconds).
3. *Dose Time too low (Base):* increase dose time (seconds).
3. *Chemical feeder is empty (Base):* Refill the feeder.
4. *Sensor malfunction:* Replace sensor.

D. pH level too high

1. *Sensor tip is dirty:* Clean according to maintenance instructions.
2. *Improper pH sensor calibration:* Adjust pH calibration.
3. *Chemical feeder is empty (Acid):* Refill the feeder.
4. *Feed pump malfunction:* Repair the feed pump.
5. *Dose Time too low (Acid):* Increase dose time (seconds).
6. *Dose Time too high (Base):* Increase dose time (seconds).

E. pH alert LED on

1. *Problem with acid supply:* Verify that the acid tank is not empty.
2. *Controller undershooting set level:* Increase dosing time if using a timed feed cycle, or switch to continuous feed.
3. *Manual addition:* Verify that the acid was not manually added.
4. *Controller overshooting set level:* 1) Dilute acid with water, or 2) Lower dosing time, or switch from continuous feed to timed feed.

F. ORP alert LED on

1. *Problem with acid supply:* Verify that chlorine was not manually added.
2. *Controller overshooting set level:* Lower dosing time, or switch from continuous feed to timed feed.
3. *Problem with chlorine supply:* 1) Verify that the chlorine feeder is not empty, or 2) Verify that the solenoid valve on the feeder is not stuck open.
4. *Controller undershooting set level:* 1) Check for proper valve positions and leaks in chlorine lines, or 2) Increase dosing time if using timed feed, or switch to continuous feed.

G. Display and LEDs off

1. *No power supply:* Check circuit breaker.

H. Feeder not operating

1. *Inadequate Flow:* Check flow through flow cell and controller.

I. Flow LED off

1. Verify that all appropriate valves are open.
2. Verify that there is sufficient pressure in the line. Close right side valve slightly if necessary.
3. Verify that the flow switch is securely connected to the controller terminals.
4. Both the pH and ORP dose outputs are disabled if the green Flow LED is not illuminated.







J. Chemical Pump Tube

NOTE: A leaking pump tube damages the metering pump. Inspect pump frequently for leakage and wear. Refer to Tube Replacement section for additional safety precautions and instructions.


Problem	Possible Cause	Solution
Tube Leaking.	Pump tube ruptured. Calcium or mineral deposits. Excessive back pressure. Tube is twisted . Tube not centered.	Replace pump tube and ferrules. Clean injection fitting, replace pump tube and ferrules. Ensure system pressure does not exceed 25 psi (1.7 bar) maximum. Replace pump tube and ferrules. Replace pump tube and ferrules.
Tube life is shortened.	Incompatibility with fluid. Mineral deposits at injection point. Sediment blockage at injection fitting. Seized rollers caused abrasion on tube. Exposure to heat or sun.	Check compatibility. Remove deposits, replace pump tube and ferrules. Maintain suction line 2-3" above bottom of tank. Clean roller assembly or replace. Do not store tubes in high temperatures or in direct sunlight.
Tube connection is leaking.	Missing ferrule on suction or discharge line. Crushed ferrule. Ferrule in wrong orientation.	Replace ferrule. Replace ferrule. Reverse orientation of ferrule.

K. Chemical Pump Tube Replacement Safety Information



WARNING RISK OF EXPOSURE

-  To reduce risk of exposure, check the pump tube regularly for leakage. At the first sign of leakage, replace the pump tube.
-  To reduce risk of exposure, the use of proper personal protective equipment is mandatory when working on or near metering pumps.
-  To reduce risk of exposure, and also prior to service, shipping, or storage, pump generous amounts of water or a compatible buffer solution to rinse pump.
-  Consult MSDS sheet for additional information and precautions for the additive in use.
-  Personnel should be skilled and trained in the proper safety and handling of the additive in use.
-  Inspect tube frequently for leakage, deterioration, or wear. Schedule a regular pump tube maintenance change to prevent damage to pump and/or spillage.






CAUTION PINCH POINT HAZARD

-  Use extreme caution when replacing pump tube. Be careful of your fingers and **DO NOT** place fingers near rollers.

WARNING HAZARDOUS PRESSURE EXPOSURE

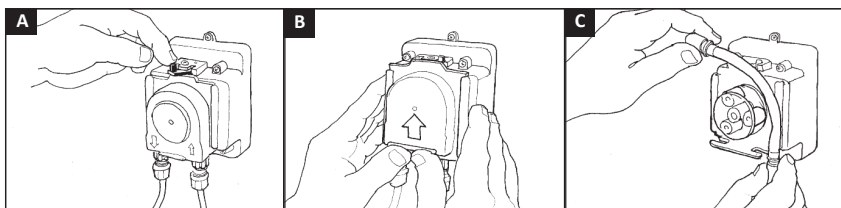
-  Use caution and bleed off all resident system pressure prior to attempting service or installation.
-  Use caution when disconnecting discharge tubing from pump. Discharge may be under pressure. Tubing may contain fluid being metered.

NOTICE: Indicates special instructions or general mandatory action.

-  **DO NOT** apply grease, oil, or lubricants to the pump tube or housing.
-  Prior to pump tube replacement, inspect the entire pump head for cracks or damaged components. Ensure rollers turn freely.
-  Rinse off fluid residual and clean all fluid and debris from pump head components prior to tube replacement.
-  **DO NOT** pull excessively on pump tube. Avoid kinks or damage during tube installation.
-  Inspect the suction/discharge tubing, injection point (into pipe), and injection fitting for blockages after any tube rupture. Clear or replace as required.

L. Chemical Pump Tube Replacement

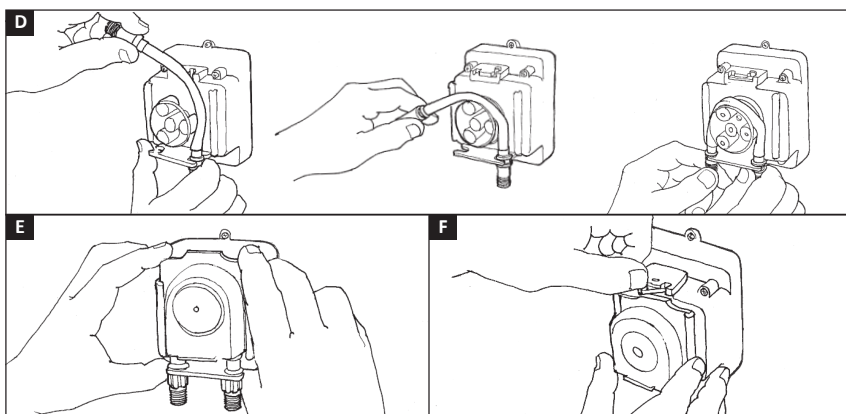
1. Preparation
 - a. Follow all safety precautions prior to tube replacement.
 - b. Prior to service, pump water or a compatible buffer solution through the pump and suction/discharge line to remove fluid and avoid contact.
 - c. Turn pump off.
 - d. Disconnect the suction and discharge connections from pump head.



2. Remove Tube

Note: Always unplug pump before doing maintenance work.

- a. Unplug the pump.
- b. Remove the Phillips locking screw on the latch. Slide the vertical tab 180 degrees from left to right to unlock the cover latch. See Figure A above.
- c. To slide cover off, push up on the raised edge. See Figure B.
- d. Release the fittings from the slots to remove the tube. See Figure C.
- e. Remove roller assembly.
- f. Use non-citrus all-purpose cleaner to clean residue from pump head housing, roller, and cover.
- g. Check cover for cracks. Replace if cracked.
- h. Ensure rollers spin freely.
- i. Replace roller assembly if: seized, excessive side play from bore wear, or if rollers are visibly worn.
- j. Re-install roller assembly.



3. Install New Tube
 - a. To install new tube, insert one fitting into slot, pull tube around the center of the roller assembly and insert second fitting into the other slot. See Figure D above.
 - b. Align tube housing cover with track and slide over tube until fully closed. See Figure E.
 - c. Plug the pump in.
 - d. Run the pump at full speed for one minute to relax the tube.
 - e. To lock cover in place, press down on the cover while turning the vertical tab 180 degrees from right to left. Install the Phillips head locking screw. See Figure F.
 - f. Run pump at full speed for one minute to verify operation.
 - g. Reconnect the suction and discharge lines.
 - h. Prime pump.

V. Warranty

VidaPure™ Chemical Controllers - Electronics

IPS Controllers warrants the VidaPure™ controller electronics to be free of defects in materials and workmanship for a period of two (2) years from the date of installation. This warranty is limited to the repair or replacement of defective components (at our discretion) when returned to the factory within the two (2) year warranty period.

Other Components

IPS Controllers warrants all other components including pumps, flow cells and flow switches for a period of one (1) year from the date of installation. Sensors will be under warranty for a period of one (1) year from the date of factory purchase. This warranty is limited to the repair or replacement of defective components (at our discretion) when returned to the factory within the one (1) year warranty period.

Excluded

Pump tube assemblies and rubber components are considered perishable and are not covered in this warranty.

Limitation of Liability

This Limited Warranty excludes liability for any damage during transportation, consequential damages of any kind, damages due to improper installation or improper operation, improper handling of chemicals, and the use of this product in applications for which it was not designed.

Claims

All warranty claims should be directed to IPS Controllers at the contact point listed below. After receiving a Returned Merchandise Authorization (RMA) number, all product must be returned (shipping prepaid) to the factory for evaluation.



Simply intelligent water care.

Factory Contact:

26111 Ynez Road, Suite C-4, Temecula, CA 92591

phone. 877-693-6903, fax. 951-693-3224

web. www.ipscontrollers.com