



# Intelli-pH™ Automatic pH Dispenser



## Installation and User's Guide

**IMPORTANT SAFETY INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS  
SAVE THESE INSTRUCTIONS**

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## IMPORTANT WARNINGS AND SAFETY INSTRUCTIONS

**WARNING** Most states and local codes regulate the construction, installation, and operation of public pools and spas, and the construction of residential pools and spas. It is important to comply with these codes, many of which directly regulate the installation and use of this product. Consult your local building and health codes for more information.



**IMPORTANT NOTICE - Attention Installer:** This Installation and User's Guide ("Guide") contains important information about the installation, operation and safe use of this underwater pool and spa light. This Guide should be given to the owner and/or operator of this equipment.

**WARNING** Before installing this product, read and follow all warning notices and instructions in this Guide. Failure to follow warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions. Please refer to [www.pentairpool.com](http://www.pentairpool.com) for more information related to this products.



**WARNING** Working with muriatic acid can be dangerous. When cleaning the IECG always wear rubber gloves and eye protection. Always add acid to water, do not add water to acid. Always work in a well-ventilated area. Splashing or spilling acid can cause severe personal injury and/or property damage.



**WARNING** Be sure that the pool or spa meets the requirements of the current National Electrical Code (N.E.C.) Article 680-22 and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the underwater light is installed.



**READ THE FOLLOWING BEFORE HANDLING AND WORKING WITH MURIATIC ACID (ALSO KNOWN AS HYDROCHLORIC ACID) AND CHLORINE (SODIUM DICHLOR)**



MURIATIC ACID AND CHLORINE (LIQUID AND MIST) CAN CAUSE SEVERE BURNS TO SKIN, MOUTH AND EYES. MAY BE FATAL IF SWALLOWED OR INHALED. INHALATION CAN CAUSE SEVERE LUNG DAMAGE.

### **IMPORTANT! CHLORINE CONTAINER**

MIXING CHEMICALS WITH CHLORINE OR CHLORINE RESIDUE IN CONTAINER CAN CREATE A DEADLY GAS OR AN EXPLOSION.

# IMPORTANT WARNINGS AND SAFETY INSTRUCTIONS

## READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS



### **INHALATION**

Inhalation of vapors can cause coughing, inflammation of the nose, throat and upper respiratory tract and death. In case of inhalation, move to an area of fresh air immediately.

### **INGESTION**

Swallowing can be fatal. Contact local poison control center or physician immediately. Give large amounts of water or milk. Allow person to vomit. If vomiting occurs, keep head lower than hips to avoid aspiration. If person is unconscious, turn their head to the side. Seek immediate medical attention.

### **STORAGE:**

Store container and chlorine in a dry, ventilated place protected from excess heat and direct sunlight. Should be stored at a temperature below 52°C (12.2°C).

### **SKIN CONTACT**

Wash skin with soap and water for at least 20 minutes and remove contaminated clothing and shoes. Contaminated clothes should be thoroughly cleaned before re-use.

### **EYE CONTACT**

Flush eyes immediately with water for at least 20 minutes. Seek immediate medical attention.

### **PERSONAL PROTECTION**

#### **VENTILATION**

Use container outside and in a well-ventilated area.

#### **EYE PROTECTION**

Use splash-resistant safety goggles.

#### **CLOTHING**

Wear chemical-resistant clothing when handling or working with chlorine.

#### **GLOVES**

Wear chemical-resistant gloves when handling or working with chlorine.

#### **DISPOSAL**

Because of its corrosive nature, muriatic acid is a hazardous waste when spilled or discarded. Dispose of used acid at an approved hazardous waste facility or at your municipal household hazardous waste collection facility. Small spills of acid may be neutralized using baking soda. Carefully pour the baking soda onto the spilled material until the fizzing stops, then mop or scoop up the residue. Leave cleanup of large spills to the experts; call your local fire department or hazardous materials spill team.

## IntellipH System Overview

This manual describes how to installation and setup the IntellipH.

### Operating IntellipH

The IntellipH controller adds acid to the pool every hour. The dispense amount is based on the user's settings. The amount of acid added each hour can be quickly changed by pressing either the MORE or LESS button, with a range of 1% - 100% in 1% increments. If 0% is selected, no acid will be dispensed.

All acid for the IntellipH system is stored in a four gallons storage canister with a built-in pump. A small tube, provided in the kit, carries the acid pumped from the canister directly to the main water line. The 60 minute timer will restart again.

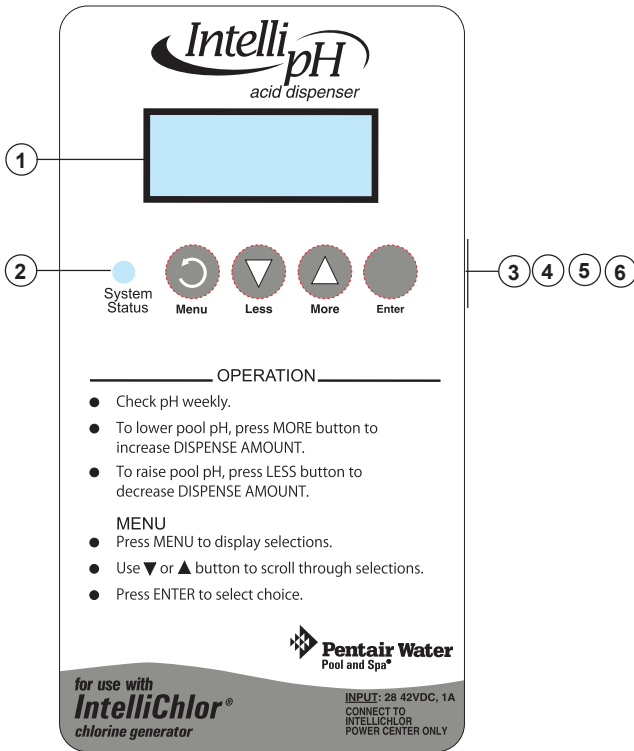
After each dose, the IntellipH control panel display will show a 60-minute countdown timer. When the timer equals zero, the pump on the canister is activated and acid is pumped into the pool's main waterline.

Note: Once an IntelliChlor cell is connected to the IntellipH controller, the cell sanitizer output will be adjusted through the IntellipH controller menu, **NOT through the cell**. Set the IntelliChlor output from the **SET CELL OUTPUT** menu on IntellipH controller . The **More and Less** buttons on IntelliChlor cell will be disabled.

### IntellipH Kit Contents

- One IntellipH control panel
- Four-gallon storage canister, with pump
- 15 ft Acid resistant tubing, from canister to cell
- Two saddle clamps (1.5" and 2")
- Injection fitting

## IntelliPH Controller Control Panel



- ① **Liquid Crystal Display (LCD):** The system LCD displays backlighting for easy viewing of the menu items and status messages. Each button press will light the display. When an event message is displayed, the backlight also lights.
- ② **System Status LED indication:** Shows green when the system is running normally, and red if an error occurred. See page 6 for error conditions.
- ③ **Menu/Button:** Access and exit from the menu. While in a menu or sub-menu, use this button to go back to a previous menu level or item. If no menu activity is detected after 30 seconds, the main screen is displayed. All menu settings are permanently saved and retained in the control panel even after the IntelliPH is power off.
- ④ **Less / More buttons:** Scroll through the main menu items and adjust or change settings. Use these buttons after pressing the Menu button to access the main menu items.
- ⑤ **Enter button:** Select a menu choice or save changes. While system is in normal mode, press this button to show the system settings. The display will automatically revert back to the normal display mode after 30 seconds from the last selection.

## Operating Mode

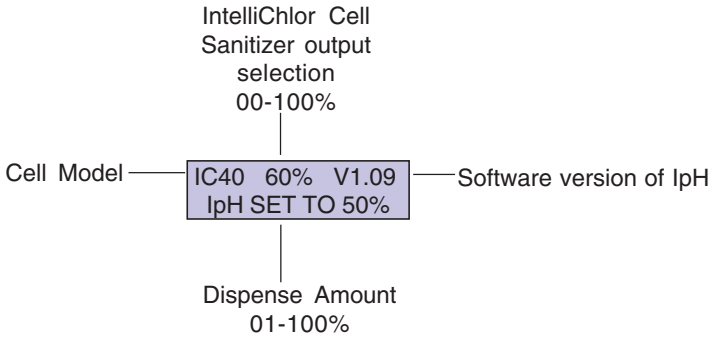
In normal operating mode the display will alternate between IntelliPH pH CONTROLLER and MIN UNTIL NEXT DISPENSE. Each message is displayed a few seconds before rotating to the next message. The "XX" is a minute countdown timer, showing from 60 to 00.

IntelliPH  
pH CONTROLLER

XX MIN UNTIL  
NEXT DISPENSE

## ENTER button

If the ENTER button is pressed during normal display mode, system information is displayed for four seconds:



## Menu Button

Press the MENU button to display the system choices. Use the MORE or LESS button to scroll through each choice. Press the ENTER button to select that choice. Pressing the MENU button will exit that menu.

## Add Acid Manually

When this selection is displayed, press the ENTER key to begin dispensing acid. The pump will turn on for 60 seconds and a countdown timer will be displayed, along with a running total of acid being dispensed (approximately 4 oz. of acid will be dispensed). If the acid hose has air bubbles, the amount pumped will be slightly less than amount displayed on the LCD screen. Press the ENTER key at any time to exit this mode. If the ENTER key is not depressed the system will return to normal operation after the 60 seconds has elapsed.

## Dispense Amount

Press either the MORE or LESS button.  
The following will display:

DISPENSE AMOUNT  
50% ■■■ \_ \_ \_

This setting controls the acid dose size every hour, and has a range of 00-100%, out of the box initial factory setting is at 50%. Increasing this percentage will increase the acid dispense amount that occurs every 60 minutes. Decreasing this percentage will decrease the acid dispense amount. Check the pool pH level weekly and adjust this value accordingly, to maintain your pool at a pH of 7.2 to 7.4. Dispense amount can also be accessed through the menu system.

Press the MORE button to raise this percentage, or press the LESS button to lower this percentage. Press the MENU key to exit this mode. The new settings will be saved in memory.

If the water pH is low, press the LESS button to decrease the acid dispensed every hour. Likewise, if water pH is high, press the MORE button to increase the acid dispensed every hour.

Your IntellipH is designed to maintain pH levels. If pH was too high, utilize the manual acid dispense to stabilize your pool and then operate for at least one week under new settings and re-check pool water pH level.

It may take several weeks of adjusting percentage setting that is perfect for your pool. Bather load, organic loads, filter pump time, and chlorine produced all affect the pH level.

Data is in ounces based on Pump and IPH setting		IPH Percentage Setting		
		10%	50%	100%
Pump Hours	1 hr	0.213	1.065	2.13
	2 hr	0.426	2.13	4.26
	3 hr	0.639	3.195	6.39
	4 hr	0.852	4.26	8.52
	5 hr	1.065	5.325	10.65
	6 hr	1.278	6.39	12.78
	7 hr	1.491	7.455	14.91
	8 hr	1.704	8.52	17.04

Approximate Ounces of ACID Dispensed				
		10%	50%	100%
7 days at 8 hrs. a day		11.928	59.64	119.28
28 days at 8 hrs. a day		47.712	238.56	477.12

Note: 128 Oz. = 1 Gallon



## Setting up the system for the first time

For best operation, the IntellipH system should be configured to match your basic acid needs. Perform the following steps to setup the system:

- Use a Test Kit to balance the pool water
- Measure the water pH
- Operate the IntellipH system for one week
- Monitor pH regularly and adjust acid dispensing amount using the "More" or "Less" buttons as required.

## Operation with IntelliTouch and EasyTouch Automation Systems

When the IntellipH is connected to an IntelliTouch®, EasyTouch® automation system, IntellipH monitors the communication link between the IntelliChlor cell and automation system.

When IntelliChlor cell is connected to an automation system, the cell sanitizer output will be adjusted through the panel menu, NOT the cell. The "MORE and LESS" buttons on IntelliChlor will be disabled.

If the automation system sends out a 0% output command to the IntelliChlor, the cell output percentage display will be blank, for no chlorine. The IntellipH will display SYSTEM OFF, WILL NOT DISPENSE. No acid will be dispensed during this time.

If the automation panel is in SPA MODE or the IntelliChlor output is set to 1% -5%, the IntellipH will display SPA MODE, WILL NOT DISPENSE. Acid will not be dispensed while this is displayed. This is a safety feature.

## Operating IntellipH in Winter

If the cell is in "COLD water cutoff" mode, where the water temperature is 52°F (12.2°C) or below, the IntellipH will display "COLD WATER WILL NOT DISPENSE".

Winterize the IntellipH using the same method as the IntelliChlor: Remove the IntellipH panel from the wall and store it in a safe place until the pool is re-opened.

## Superchlor Mode

This setting controls the IntelliChlor cell sanitizer output, and has a range of 0% -100% (default factory setting is 60%). Increasing or decreasing this percentage will increase or decrease chlorine in your pool.

This feature replaces the MORE and LESS button on the IntelliChlor cell. Once the IntelliChlor cell is connected to the IntellipH, the 'More' and 'Less' buttons on the IntelliChlor will be disabled.

*Note: The IntellipH controller will increase and decrease chlorine output in 1% increments.*

Cell output setting	IntelliChlor "Sanitizer Output" LED Display
1 - 29	20%
30 - 49	40%
50 - 69	60%
70 - 89	80%
90 - 100	100%

## History Data

The History Data feature allows you to collect and view the operating history of the IntellipH unit. To access the IntellipH history data, press ENTER. The following list is displayed: - - - - DISPENSE. The number of hourly dispenses performed since installation. Press the MORE button to scroll down to the next screen. Every automatic dispense will increment this counter. This is useful to verify the unit is dispensing acid.

## Troubleshooting

Refer to the following tips to help to resolve problems that might occur while operating IntellipH.

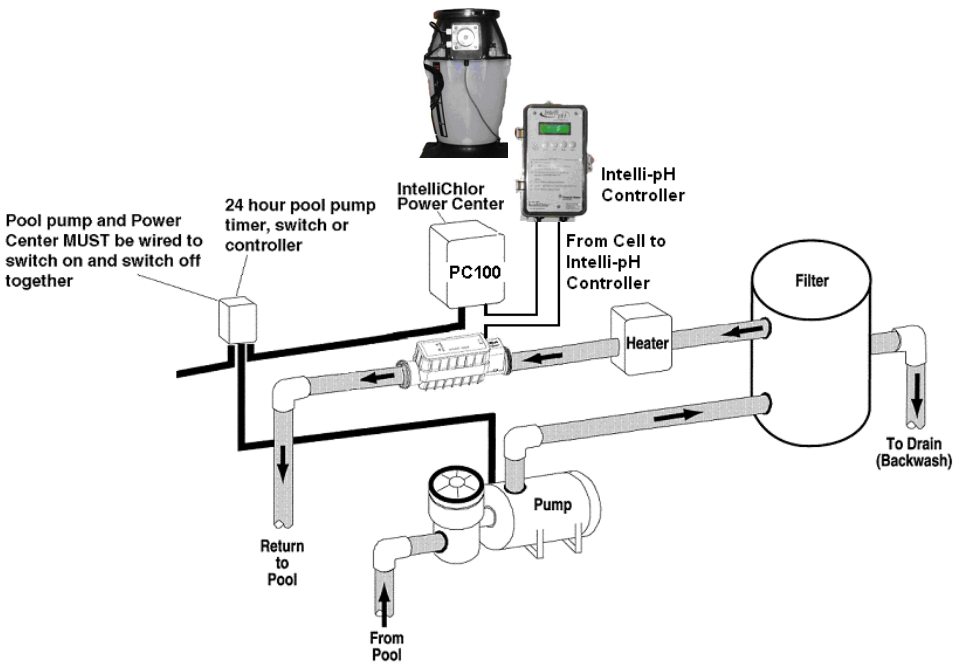
SYMPTOM	POSSIBLE CAUSE	SOLUTION
pH too high in pool	IntellipH not "tuned" to pool needs	Press MORE button to increase Dispense Amount
pH too low in pool	IntellipH not "tuned" to pool needs	Press LESS button to decrease Dispense Amount
Acid pump doesn't run	Hourly acid dose size is too small to dispense every hour.  Press MENU, then MANUALLY DISPENSE ACID, this will activate pump	Increase Dispense Amount setting.  Pump not working, replace.
System Status Light is red	Attempted to dispense acid, but no flow was seen in cell.  Intellichlor cell was not ready (Intellichlor salinity lights scrolling, indicating cell is on status check)	Check and confirm enough water flow through Intellichlor cell.  Wait until Intellichlor cell finish the 2 min salinity check cycle.
System Status Light is red	Cell is not present or communication link is down.	
"Cell not Present" message	Cell communication link is down	Check terminal block from IntelliTouch or EasyTouch.

## IntelliPH Installation

The IntelliPH controller is installed "in series" with the IntelliChlor cell. The IntelliChlor® cell cord plugs into the IntelliPH controller and the controller plugs into the IntelliChlor power center, EasyTouch® or IntelliTouch® load center power connector.

To install the IntelliPH Controller:

1. Choose a location on a wall or vertical surface near the IntelliChlor power center (p/n 520556), EasyTouch load center or IntelliTouch load center. Secure the IntelliPH controller to the surface with the three screws (provided in kit).
2. SWITCH OFF or REMOVE POWER to the IntelliChlor cell.
3. Remove the IntelliChlor cell cord from the power center, EasyTouch or IntelliTouch load center. Insert the plug into bottom of the IntelliPH controller.
4. Plug the IntelliPH controller cord into the IntelliChlor power center, IntelliTouch or EasyTouch load center, where the cell originally was plugged in.
5. Switch power ON to the IntelliChlor cell. The IntelliPH controller will now power up.



IntelliPH Controller Installation Diagram

## Saddle Clamp Mount Installation

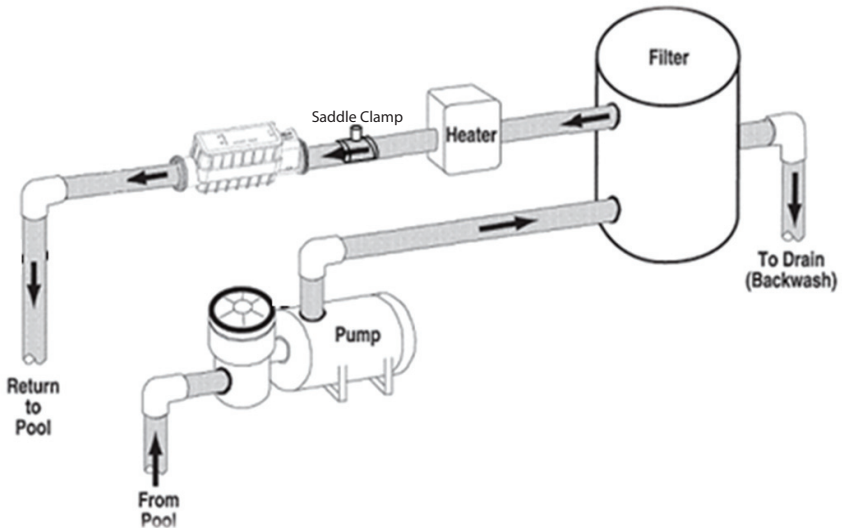
The saddle clamp is designed to mount the injection fitting on the main water line. The outside of the pipe must be clean and free of surface imperfections. To ensure a leak-free installation.

### Drill the Mounting Hole

1. Select an area on the pipe close to the IntelliChor® cell (Between the filter and c IntelliChlor cell) on the Flow Switch side of the cell inlet.
2. Drill a 1/2" diameter hole through the center of the pipe wall (Be sure not to drill through the pipe).
3. Clean all burrs from inside and outside of the hole. If necessary, use fine sandpaper to remove the burrs.

### Install the Saddle Clamp

1. Thread the injector fitting into the top of the saddle clamp. Place the supplied o-ring in the groove. **IMPORTANT!** Be sure the o-ring is properly aligned in the groove on the saddle clamp.
2. Place the pipe hose clamps around the pipe and the slots on the saddle clamp. Tighten the pipe clamps using the alternative method (i.e. left, right, left, etc.).



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## Notes

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## Notes



**SAVE THESE INSTRUCTIONS**



P/N 521396 Rev A