

CO₂ Dispensing Kit

for

PRO
LOGIC™



Installation and Operation Manual

for

AQL-CHEM2

Introduction

When used with the Goldline Pro Logic and AQL-CHEM sensing kit, the AQL-CHEM2 CO₂ dispensing kit solves the problem of how to provide low cost pH control for backyard pools without having to handle acid. The AQL-CHEM2 is designed to install on a standard CO₂ tank and wire directly to the Pro Logic control. Using the AQL-CHEM sensing kit, the Pro Logic pool control will sense the pH level and if needed, the AQL-CHEM2 will introduce CO₂ to the pool water. CO₂ is mildly acidic when dissolved in water and will lower the pool's pH slowly without the safety or health concerns normally associated with harsher acids.

What's Included

The AQL-CHEM2 includes the following:

- Pressure reducing regulator preset at 50 psi output
- Stainless Steel 1/2" VAC solenoid valve with 6' power cord
- 15' of black UV resistant flexible tubing
- PVC check valve injector

CO₂ information and availability

The AQL-CHEM2 kit requires the use of CO₂ which is supplied in cylinders that are readily available from various sources. CO₂ cylinders are offered in a variety of sizes. Goldline recommends the use of 20 pound cylinders for most residential pool applications. The AQL-CHEM2 uses a standard fitting for these tanks. CO₂ can be easily found at local and national welding supply or beverage companies. A quick search on the web with the keywords "CO₂ supply" will yield many companies, some with hundreds of branch/store locations nationwide.

Installation

Installation

Installing the AQL-CHEM2 requires the following steps:

- Mount CO₂ tank using commercially available straps
- Attach the solenoid valve to the CO₂ tank
- Install the PVC check valve injector to the pool's return plumbing
- Wire the solenoid valve to the Pro Logic pool control
- Configure the Pro Logic to control the AQL-CHEM2

This manual assumes that the Goldline AQL-CHEM Chemistry Kit and pH Dispense Pigtail (included with AQL-CHEM) has already been installed. If not, this will need to be performed prior to installation.

Mount CO₂ tank

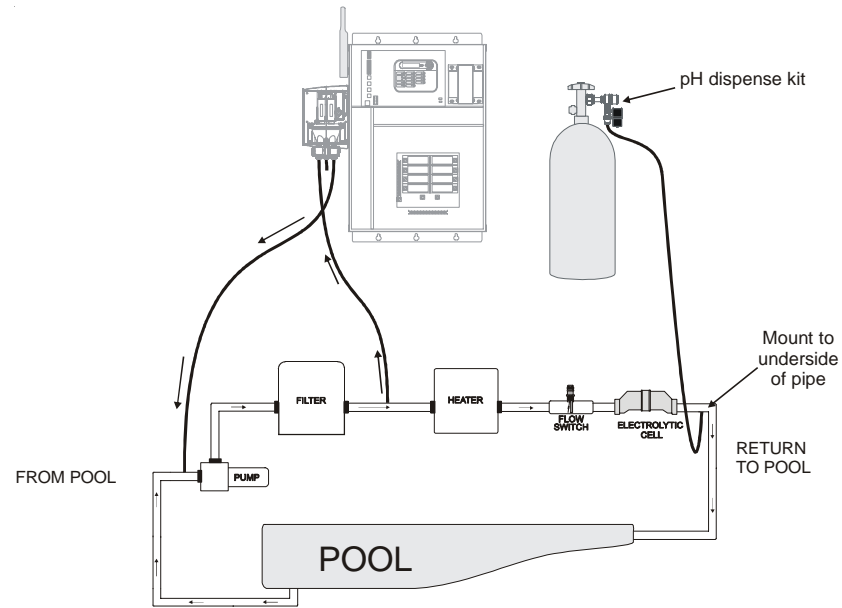
Mount the CO₂ tank in an easily accessible location. Straps or brackets can be purchased from the tank supplier for a secure installation.

Attaching the solenoid valve

The solenoid valve attaches to the CO₂ tank much like an outdoor gas grill attaches to a propane tank. With the tank valve off, insert nylon washer and screw the brass fitting of the AQL-CHEM2 solenoid valve on to the CO₂ tank. Keep the tank's valve off until the entire installation is complete.

Installing the PVC check valve

When installing the PVC check valve, refer to the plumbing overview of the AQL-CHEM and AQL-CHEM2 shown on page 2. The PVC check valve must be installed at the pool's return line **DOWNSTREAM** of the Pro Logic's electrolytic cell and flow switch. Because mild acid will be dispensed at this location, it should be the last component installed in the return line before water is allowed to flow back to the pool. Note that the injection point must be free of air pockets and should be located at the underside of the pipe.



To install the check valve, perform the following steps:

1. Turn off pool filter pump.
2. Drain water from the return line.
3. Drill a 7/16" hole in the bottom side of the return line **AFTER** the Pro Logic's electrolytic cell and flow switch.
4. Tap the hole for a 1/4" NPT. Use caution not to tap tapered threads too deeply.
5. Apply plumber's tape to check valve threads and screw into tapped hole. **DO NOT OVERTIGHTEN.**
7. Connect one end of the provided 3/8" flexible hose to the check valve and the other end to the solenoid valve as shown in the diagram above.
8. Turn on pool pump and check for water leaks.
9. Open CO₂ tank valve and use soapy water to check for CO₂ leaks at regulator fitting.
10. Temporarily apply power to the solenoid and use soapy water to check for CO₂ leaks at tubing ends and fittings. Remove power when finished.

Wiring the AQL-CHEM2

All wiring must be performed with the Pro Logic's input power off. The AQL-CHEM2 is supplied with a 6' power cord and is designed to plug into the Goldline pH Dispense Pigtail that is included with the AQL-CHEM kit. The Pigtail must be wired directly to a relay in the Pro Logic pool control. The actual relay used will be determined by the Pro Logic model and the existing pool equipment. Installation instructions for the Pigtail are provided with the AQL-CHEM kit.

Configuring the pH Dispense Relay

The relay used to control the AQL-CHEM2 needs to be configured within the Configuration Menu. Determine which relay is being used (the relay the Pigtail is wired to). Follow the configuration procedure found in the Pro Logic Installation and Operation manuals under Configuration Menus to set the function of this relay to "pH Dispense". An example of this (using Aux1) is shown below. Note that PL-P-4 and PL-PS-4 models will automatically use Aux 3.

| | |
|----------------------------------|--|
| Aux1 Config. + to view/change | + Push to access Aux options <> Move to previous/next configuration menu |
| Aux1 Name Aux 1 | + Rotates between all available names <> Move to next menu item |
| Aux1 Function pH Dispense | + Rotates between Manual On/Off (default), Countdown Timer, Low Speed-Filter Timeclock, Solar, Low speed-Spa Filter, Group & Super Chlorinate, and pH Dispense <> Move to next menu item |

Caution: *Be certain to verify that the proper relay has been used and configured for pH.*

- Verify proper relay operation by using the pH Reduction CTRL set to "Forced on"
- Observe that the relay immediately turns on and applies power to the CO2 feed solenoid
- Once this is verified, set pH Reduction CTRL back to AUTO

As a last check for proper configuration, push the corresponding output button for the AQL-CHEM2. The device SHOULD NOT TURN ON. If it does, go back through the configuration to determine the problem.

Operation

Refer to the AQL-CHEM manual for specific operation information relating to the AQL-CHEM2.



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