

Chemical Automation is now recognized as a must for proper water treatment in swimming pools, spas, cooling towers and industrial water treatment.

With advanced microprocessor-based technology, the **CHEMTROL® DIGITAL CONTROLLERS** introduce a new standard of sophistication in automated chemical control. These simple and user-friendly controllers offer the choice of control in PPM (parts per million or milligrams per liter) for Free Chlorine or in ORP (Oxidation-Reduction Potential) for chlorine, bromine or ozone.

The **CH255 PPM/pH Controller** features a pH sensor and a PPM solid state sensor with a selective membrane for control of Free Chlorine.

The **CH250 ORP/pH Controller** features a pH sensor and an ORP sensor for control of chlorine, bromine or ozone.

The **CH240 pH Controller** is used for control of pH with neutralizing acidic or alkaline solutions, particularly for environmental applications.

The **CH230 ORP Controller** is used for control of the ORP of neutral-type sanitizers - such as bromine or dichlor - that do not require pH control.

STANDARD FEATURES

- √ All Functions on Front Panel
- √ Adjustable Setpoints
- √ Adjustable Alarms
- √ Proportional Feed
- √ Overfeed Safety Timers
- √ Waterproof Cabinet
- √ Easy to install
- √ Simple to use
- √ 5-year Electronics Warranty
- √ Toll-Free Technical Support

EASY TO USE

A bright LCD display shows ORP and/or pH readings, calibration adjustments and alarm limits. The five LED lights indicate the operating modes (OFF, Manual or Auto), feed status, out-of-range alarms and overfeed alarms.

The front panel controls include setpoint, calibration, low and high alarm limits, safety timer limit and proportional feed adjustment.

Feed control is either ON/OFF or Proportional. The Proportional Feed feature is particularly useful to avoid overfeeding in small bodies of water. It reduces the feed cycle time progressively as the sensor reading approaches the setpoint.

SIMPLE AND RELIABLE

All **CHEMTROL®** controllers are user-friendly, reliable and easy to install and operate. Every unit is supplied with a comprehensive operation manual and a **FIVE-YEAR electronics warranty**.

EXTENDED TECHNICAL SUPPORT

Technical support from **CHEMTROL®** is based on our experience with over 30,000 installations worldwide. It is available by toll-free phone, by fax or by e-mail.



Visit our Web Site at www.sbcontrol.com or call today for a free demo CD-ROM



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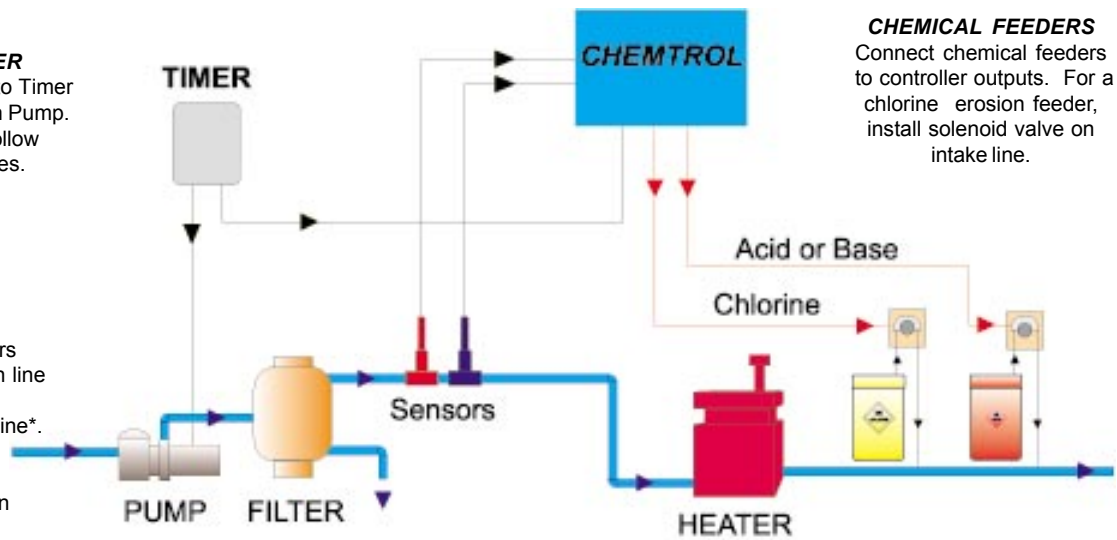
EASY TO INSTALL

EASY AS 1-2-3

1
CONTROLLER
Connect controller to Timer in parallel with Main Pump. Make sure to follow electrical codes.

2
SENSORS
Install sensors on recirculation line after filter or on bypass line*.

*recommended option



3
CHEMICAL FEEDERS
Connect chemical feeders to controller outputs. For a chlorine erosion feeder, install solenoid valve on intake line.

SIMPLE TO OPERATE

The **CHEMTROL® Digital Controllers** automatically maintain both Sanitizer concentration and water pH.

All operating functions are clearly labelled and accessible from the front panel, with safety and easy-reset features not found on other controllers.

The **Free Chlorine concentration can be adjusted from 0.1 to 10 ppm (or mg/l)** based on local Health Department and NATIONAL SPA AND POOL INSTITUTE (NSPI) values for prevention of germs and bacteria (or from 0.01 to 2.0 for low chlorine level applications).

The **default ORP control level is 700 mV**, based on WORLD HEALTH ORGANIZATION (WHO) and NATIONAL SPA AND POOL INSTITUTE (NSPI) values for prevention of germs and bacteria.

The **standard pH control level is 7.5**. Below 7.4, the water is too acidic and causes corrosion and eye irritation. Above 7.6, it is too alkaline and causes eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency.

A SOUND INVESTMENT

The **CHEMTROL® Digital Controllers** are based on over 25 years of experience in water treatment automation with over 40,000 installations worldwide. Featuring a 5-year electronics warranty, it **actually pays for itself in 1 to 2 years** through cost savings in operating and maintenance expenses.

Savings continue to accrue from the more efficient use of chemicals, avoiding over- and under-feeding, and from lower labor costs for water testing and repairs of damaged equipment. In particular, commercial operators save on **specialty chemicals, customer complaints and health department shutdowns**.

SPECIFICATIONS

PPM SENSOR	Solid State with Selective Membrane and 10-ft sensor cable
ORP SENSOR	Platinum electrode with 10-ft (3 m) cable
pH SENSOR	Glass electrode with 10-ft (3 m) cable
PPM CONTROL	Standard from 0.1 to 10 ppm (mg/l) Optional from 0.01 to 2.0 ppm (mg/l)
ORP CONTROL	Adjustable from 200 to 995 mV
pH CONTROL	Adjustable from 7.0 to 8.0
READOUTS	PPM (3 digits) and pH (2 digits) LEDs
FEED MODES	Manual, automatic, proportional
ADJUSTMENTS	Setpoint, calibration, limits, feed rate
INDICATORS	LEDs for feed mode, feed status, alarms
SAFETY	Audio, visual and remote alarms Out-of-range limits and overfeed safety timers
CABINET	Polystyrene 9x7x4 in. (22x18x10 cm)
ELECTRICAL	110V, 230V or 24 VAC (specify)
PLUMBING	PVC tees for 1-1/2" or 2" line
WARRANTY	5 years on electronic module 1 year on all other parts
SHIPPING	12x12x12-in (30x30x30 cm) carton 9 lbs (4 kg) without pumps 18 lbs (8 kg) with 2 chemical feed pumps

AUTHORIZED CHEMTROL® DEALER



CH255 PPM/pH DIGITAL CONTROLLER

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CHEMTROL® 255

PPM/pH Digital CONTROLLER

with Free Chlorine Control

A simple and inexpensive controller for:

- Residential Pools and Spas
- Commercial Pools and Spas
 - Hotels, Motels
 - Health Clubs
 - Apartments Buildings
 - Condo Associations.
- Industrial Water Treatment.



The CHEMTROL® 255

PPM/pH Digital Controller introduces the new [sensor for Free Chlorine](#) control in automated water treatment.

A microprocessor-based digital controller, it is designed to maintain both free chlorine PPM and water pH in high-end residential pools, small commercial pools and spas and light industrial applications.

Unlike other chlorine sensors on the market, these sensors are easy to install and maintain, very precise and so reliable that they are covered by a full 2-year warranty.

For better water management results, it is recommended to use ORP control of chlorine oxidizing activity and PPM monitoring of free chlorine. Alternatively, PPM control can be used for control of the sanitizer and ORP control for an oxidizing agent, such as ozone.



PPM READINGS

The new [Free Chlorine Sensor](#) is a solid state sensor with a selective membrane that provides direct readings of Free Chlorine in water at concentrations ranging from 0.1 to 10 ppm (parts per million) or mg/l (milligrams per liter).

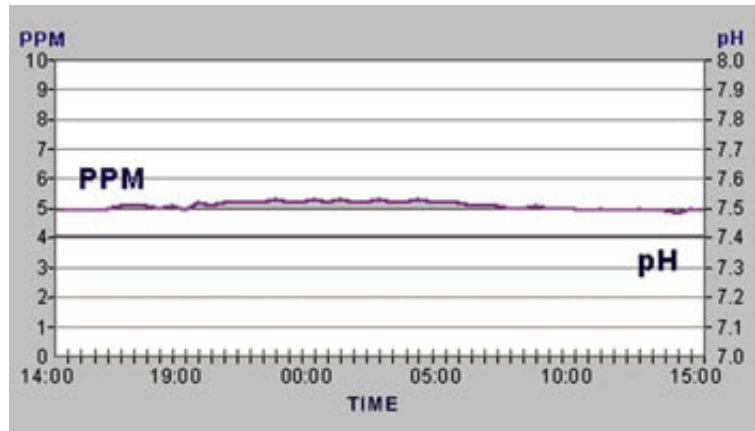
These are true readings of Free Chlorine corresponding to the DPD #1 test.

A significant advantage of this sensor is that it's not affected by cyanuric acid

(CYA) stabilizer and/or oxidizers, thereby assuring constant Free Chlorine levels at all times. Extensive laboratory and field tests have shown it to be very accurate and reliable.

PRECISE AND RELIABLE CONTROL

As shown on the graphic data log on the right, the new sensor gives the operator precise and reliable control of Free Chlorine under the most difficult conditions.



The **CHEMTROL[®] 255** is the only easy-to-use controller offering Free Chlorine and pH control for pools, spas, cooling towers, industrial water treatment, etc.

SANITIZER AND pH CONTROL MADE EASY

Designed for affordability, simplicity of installation, ease of use and long-term reliability, it includes features normally not found on this type of controller, such as:

- adjustable setpoints,
- adjustable high and low alarms,
- adjustable overfeed safety timers and
- adjustable proportional feed control.

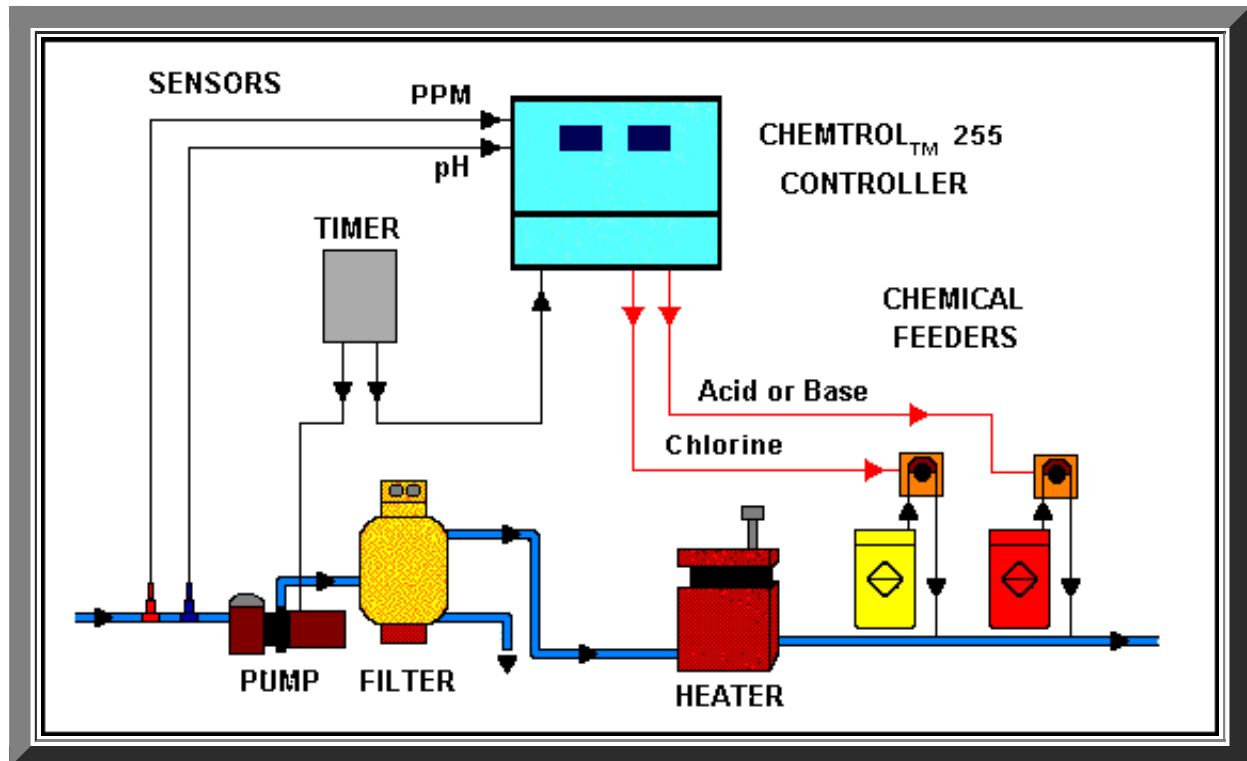
FEATURES

- Easy to install
- Simple to use
- All Control Functions on Front Panel
- Separate Adjustable Setpoints
- Separate Adjustable Alarms
- Acid/Base Selector
- Proportional Feed with Adjustable Bandwidth
- Separate Adjustable Overfeed Safety Timers
- Waterproof Cabinet with Clear Window Cover

- 5-year Electronics Warranty
- Toll-Free Technical Support

EASY TO INSTALL

Unlike conventional amperometric or colorimetric sensors, the PPM sensor is easy to install and operate. It does not require a special pressure flow cell and/or expensive and expendable chemical reagents. And best of all, it's **maintenance free**.

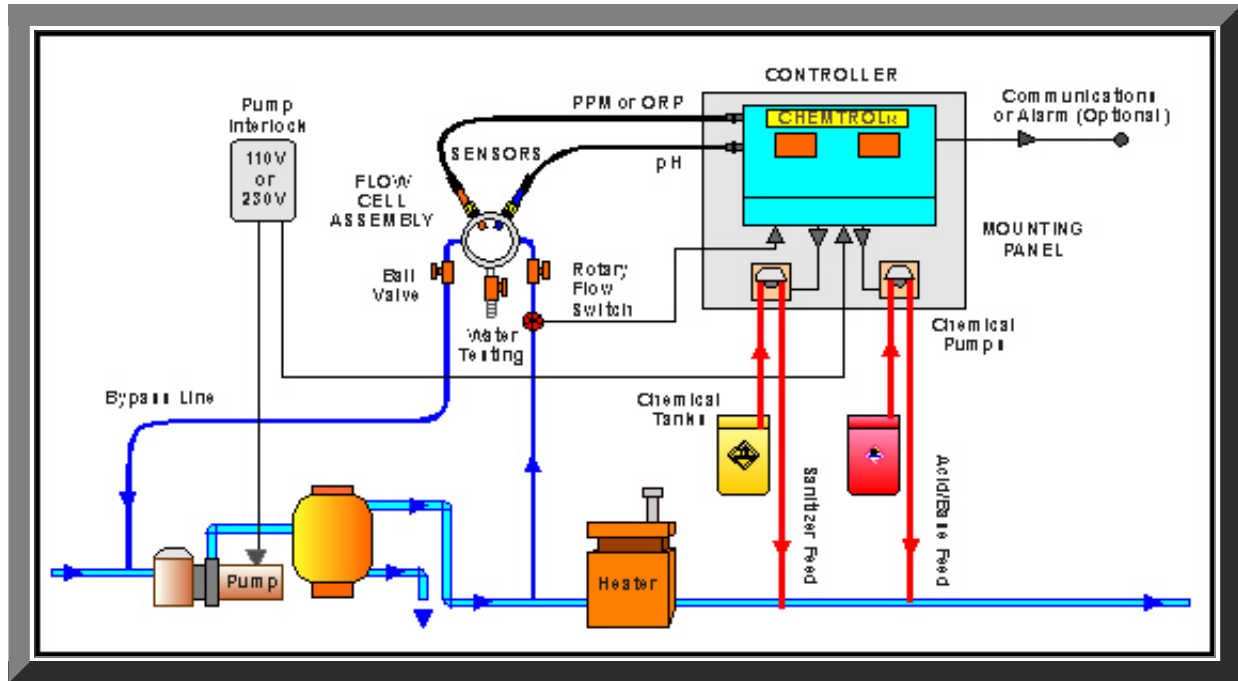


Installation of the CHEMTROL® 255 is as easy as 1-2-3.

1. **CONTROLLER** - Connect the controller to the 110 or 230V output of the Timer in parallel to the recirculation pump. This will prevent accidental feeding of chemicals when the pump is not running. Make sure to follow the electrical code.
2. **SENSORS** - Install the PPM and pH sensors on the recirculation line or on the optional bypass line. The two sensors can be mounted directly on the main recirculation line with 2" PVC tees, as shown on the schematic. For recirculation lines over 2" in diameter lines, the sensors should be mounted on a 1/2" bypass line.
3. **CHEMICAL FEEDERS** - Connect the chemical feeders to the 110 or 230V controller outputs, according to the manufacturer's instructions, making sure to inject the chemicals downstream of the sensors. For a bromine or chlorine erosion feeder, install a corrosion-resistant solenoid valve on the intake line of the feeder. The controller is compatible with most ozonators and electrolytic generators.

Flow Cell Assembly

For best operation, it is recommended to install the sensors on a bypass line with a Flow Cell Assembly (FCA) as shown below.



The FCA includes a see-through cell with a plastic cover that regulates the flow of water and allows the operator to see the tip of the sensors.

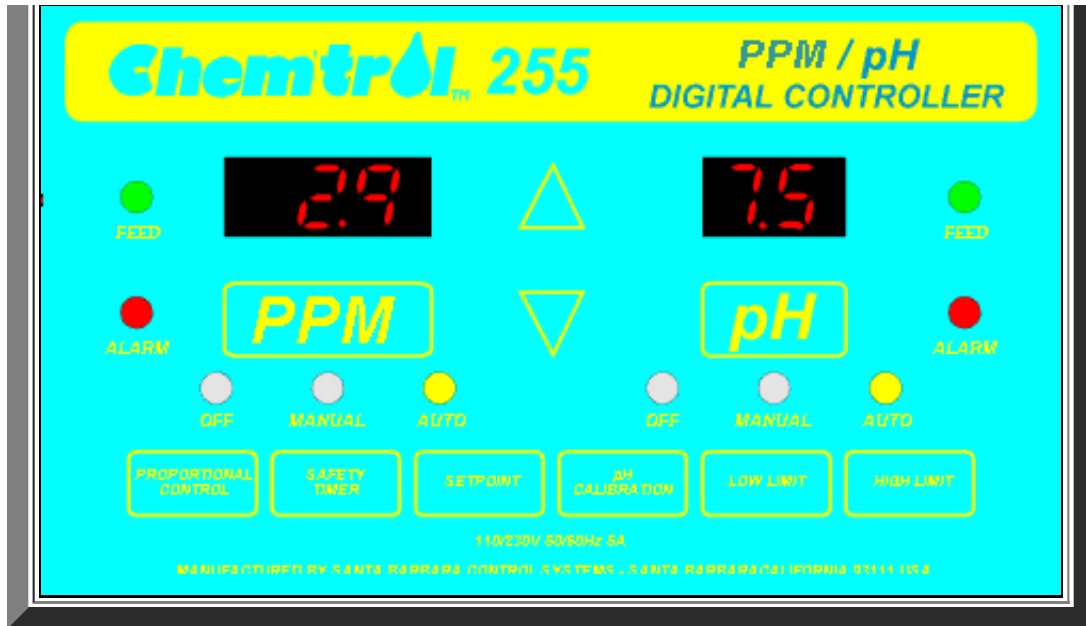
The cell includes the following:

1. two 1/2" FPT fittings for the connections to the bypass line,
2. two 1/2" FPT fittings for mounting the sensors,
3. a spigot for water testing,
4. a bleed line to prevent air lock in the cell,

In addition it is also recommended to install a safety switch on the bypass line to prevent accidental feeding of chemicals.

SIMPLE TO OPERATE





The **CHEMTROL[®] 255** PPM/pH Digital Controller automatically maintains both sanitizer PPM and water pH in pools and spas.

All operating functions are clearly labeled and accessible from the front panel, with many safety and easy-reset features not found on other controllers:

- pH calibration from 7 to 8,
- PPM setpoint from 0.1 to 10.0 ppm or mg/l (or 0.01 to 2.0 optional),
- pH setpoint from 7 to 8,
- Chlorine and pH feed modes: off, manual, automatic,
- PPM and pH proportional control bandwidth from 0 to 100% of the setpoint,
- Chlorine high and low alarms from 400 to 900 mV,
- pH high and low alarms from 4 to 10,
- Chlorine overfeed safety timer from 0 to 999 minutes,
- pH overfeed safety timer from 0 to 99 minutes.

To select a function, simply press PPM or pH and then the desired function. The display shows the current function value. Use the UP or DOWN arrows to adjust to the desired value.

CONTROL SETPOINTS

The standard factory-set Chlorine control level is 1.0 ppm or mg/l, based on **WORLD HEALTH ORGANIZATION (WHO)** and **NATIONAL SPA AND POOL INSTITUTE (NSPI)** values for prevention of germs and bacteria. A range of 0.01 to 2.0 is also available for low chlorine level

applications.

The standard factory-set pH control level is 7.5. Below 7.4, the water causes eye irritation and corrosion of equipment. Above 7.6, it also causes eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency.

To change the control levels, the operator presses PPM or pH and then SETPOINT. Use the UP or DOWN arrows to adjust the PPM and pH setpoints. To save the new setpoint value and exit, press SETPOINT again.

The controller then automatically activates the chemical feeders for sanitizer and acid (or soda) feed, as required to maintain the set PPM and pH levels - regardless of fluctuations in bather load, contamination and weather.

Like a thermostat maintaining a constant temperature, it prevents overfeeding or underfeeding, both of which are detrimental to good water quality.

ALARMS

When there is an alarm condition, the corresponding display flashes the alarm value:

- PPM out-of-range,
- pH out-of-range,
- PPM overfeed,
- pH overfeed.

The display stops flashing when the condition is corrected. To reset the overfeed timers, turn the feed mode to off and then back to Manual or Auto.

RESET

The ideal values are set as default values. They can be adjusted by the operator at any time. To reset all factory default values, press PPM and pH for 5 seconds.

SPECIFICATIONS

free CHLORINE
CONTROL

Adjustable from 0.1 to 10.0 ppm (mg/l) or 0.01 to 2.0 (specify).

pH CONTROL	Adjustable from 4.0 to 10.0
FREE CHLORINE SENSOR	Solid state electrode with 10-ft (3 m) cable
pH SENSOR	Glass electrode with 10-ft (3 m) cable
READOUTS	PPM (3 digits) and pH (2 digits) LEDs
FEED MODES	Manual, automatic, proportional
ADJUSTMENTS	Setpoint, calibration, limits, feed rate
INDICATORS	LEDs for feed mode, feed status, alarms
SAFETY	Audio, visual and remote alarms Out-of-range limits and overfeed safety timers
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