



MODEL CRA 5000

CHLORINE RESIDUAL ANALYZER

The REGAL™ Model CRA 5000 Chlorine Residual Analyzer is designed to continuously measure the level(s) of Free and/or Total chlorine in the disinfection process of water and wastewater.

The CRA 5000 may be used exclusively to monitor chlorine residual levels or it may be integrated with the REGAL Model 7009/7010 SMARTVALVE™ for Compound Loop (Feedback) chlorination and/or Feed Forward dechlorination. Advanced amperometric technology combined with intuitive setup and control features make it an easy transition for both new and experienced operators.

All configuration and operation functions are made via a 4-pushbutton keypad integrated with an aligned LCD. The LCD is in 2-line, multi-character format to provide clear, easy to read data and command functions.

Ordinary, food-grade white vinegar (5%) is used as a buffering agent to maintain sample water pH when measuring FREE chlorine residual. When measuring TOTAL chlorine residual, potassium iodide crystals are added to a pre-mixed buffering solution to liberate free iodine in direct proportion to the amount of both Free and Combined forms of chlorine.

STANDARD FEATURES

- Full, automatic control capability.
- Field-selectable ranges.
- Auto zero function.
- Isolated, 4-20 mA output signal.
- Field-adjustable alarm relays for low and high residuals.
- 4-pushbutton keypad with 2-line, 20 character LCD.
- Continuous electrode cleaning.

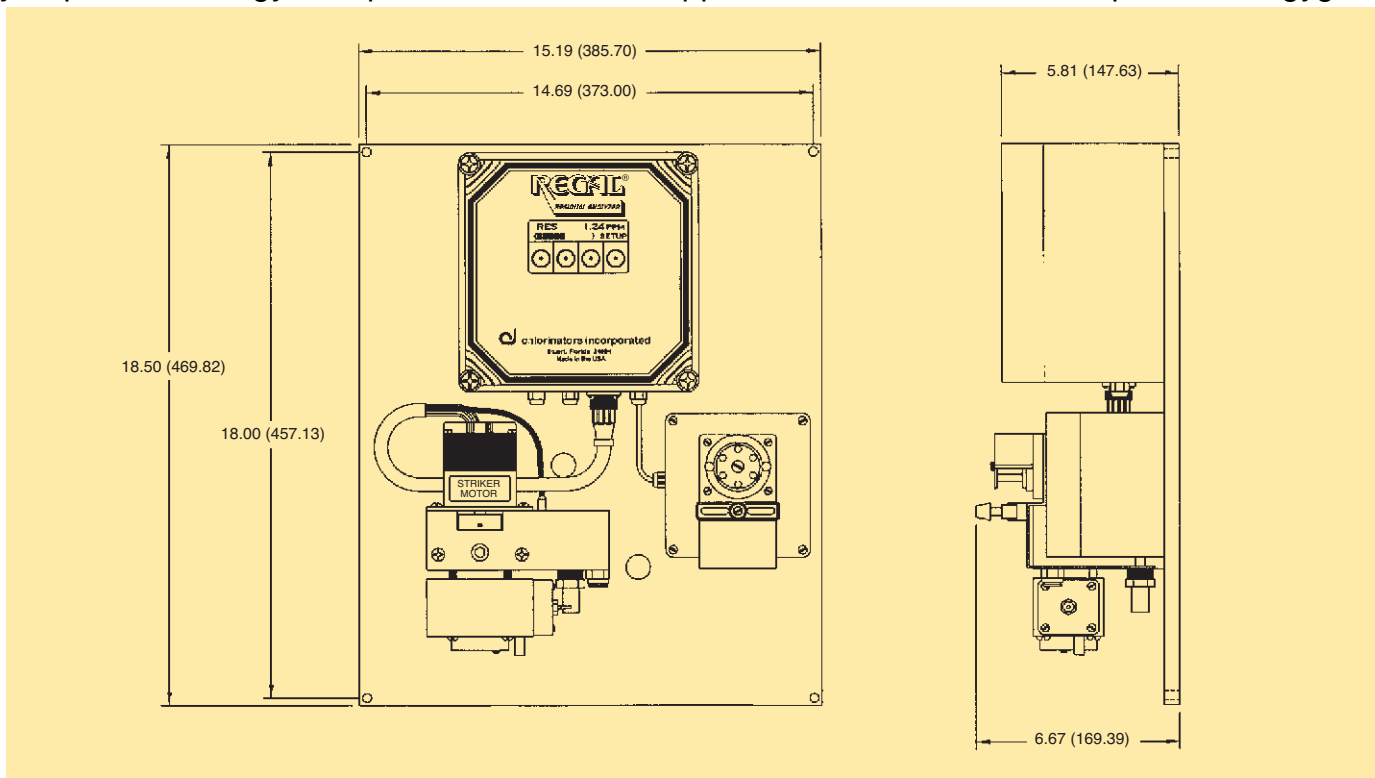


AVAILABLE OPTIONS

- Signal for low/empty sample reservoir.
- Serial Communications Interface (RS 232, RS 422 and RS 485).

OPERATION

A continuous sample of water or wastewater is delivered into a reservoir in the analyzer where it is gravity fed at a constant flow rate into the amperometric measuring cell. A thermistor located in the water sample compensates for temperature variations. A pH buffering agent is simultaneously injected into the cell by means of a peristaltic pump to lower the pH level in the cell to a fixed value. A small current is generated as the sample water flows between two fixed electrodes. The current generated is in direct proportion to the concentration of chlorine present in the sample water. The signal is processed and converted for digital display and transmission of an accurate, isolated, 4-20 mA dc signal to a variety of customer furnished remote recording and/or data logging devices or to initiate automatic feed control when used with the REGAL 7009/7010 SMARTVALVE™. The electrodes are constantly cleaned using PVC spheres agitated in the cell by a motor driven striker which helps prevent signal drift. After the sample is analyzed, it drains to waste.



SPECIFICATIONS

Power Supply

115 VAC/60 Hz

Power Consumption

12 Watts

Display

Backlit LCD, 20 character x 2 line

Keypad

Four Button, tactile dome

Relays

Three 10A 250 VAC for low residual, high residual and one spare

Cell

Au/Cu (Gold Anode/Copper Cathode) galvanic cell

Temperature Compensation

Thermistor, 10K Ohms @ 77°F (25°C)

Analog Output

Isolated 4-20 mA, 600 ohm drive

Instrument Ranges

Field selectable

Sample Supply

Continuous.

Electrodes must be kept wet with fresh water if sample interruption is necessary

Sample Flow Rate

500 ml/minute @ 5 PSIG max

Analyzer Location

As close as possible to the sample point to minimize lag time

Speed of Response

4 seconds from sample entry to digital display

Ambient Temperature

35°F to 120°F (2°C to 50°C)

Sample Temperature

35°F to 120°F (2°C to 50°C)

Sample Limitations

Samples containing high concentrations of metal ions or certain corrosion inhibitors may affect operation

Accuracy

±2% of Selected Range

Sensitivity

.001 PPM

Resolution

.001 PPM for 0 to .99 range

.01 PPM for 0 to 9.9 range

.1 PPM for 0 to 99 range

Electronics Enclosure

NEMA 4X

Reagent Requirements

Free Chlorine

5% White Vinegar or pH Buffer.

Total Chlorine

5% White Vinegar or pH Buffer plus Potassium Iodide

CONTENTS GUIDE

Standard package consists of:

1 each PVC mounting panel (18 1/2" H x 15 1/4" W x 1/2" thick)

1 each Controller with isolated 4-20 mA output

1 each Wet cell/chemistry unit with connectors and fittings

1 each Peristaltic pump with reagent tubing

1 each Instruction Bulletin CRA 15000

Approximate Shipping Weight: 25 lbs.

 chlorinators incorporated

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