

# RA-1000

## *Residual Chlorine Analyzer*



### **System Features**

- Proprietary Auto Zero function
- All digital control
- Continuous electrode cleaning
- Eight standard field selectable ranges
- Measurement of free or total chlorine residual
- Full automatic control capability
- Pushbutton control of all functions

The Eagle Microsystems Model RA-1000 Premier Series Residual Chlorine Analyzer is an amperometric instrument designed to continuously analyze the residual concentration of free or total chlorine, chlorine dioxide or potassium permanganate in water or wastewater.

### **System Operation**

A sample of water or wastewater containing the target chemical is pumped to a reservoir in the instrument where it is fed by gravity to the amperometric measuring cell. A pH buffering agent is also injected into the cell. A small current is developed within the cell, the level of which is directly proportional to the concentration of the target chemical within the sample.

The output of the cell is processed by an on-board microprocessor-based digital controller and the residual value is displayed on the LCD readout of the instrument. The digital controller transmits a 4-20 mAdc signal for recording or remote display and is capable of outputting a signal for residual process control via one of several modes including: flow pacing and compound loop control.

The dissimilar metal electrodes of the cell are continuously cleaned by PVC spheres which are stirred within the cell by a motor driven striker. This continuous cleaning eliminates signal drift and minimizes the need for recalibration of the instrument. Temperature compensation of the cell output is provided by a thermistor which senses cell temperature.

All control and calibration functions are digital and adjustments are made via the simple, user friendly, 4-pushbutton keypad on the face of the instrument. The controller display is a 2-line by 16-character backlit LCD. All operations and calibration adjustments are menu driven through this display.

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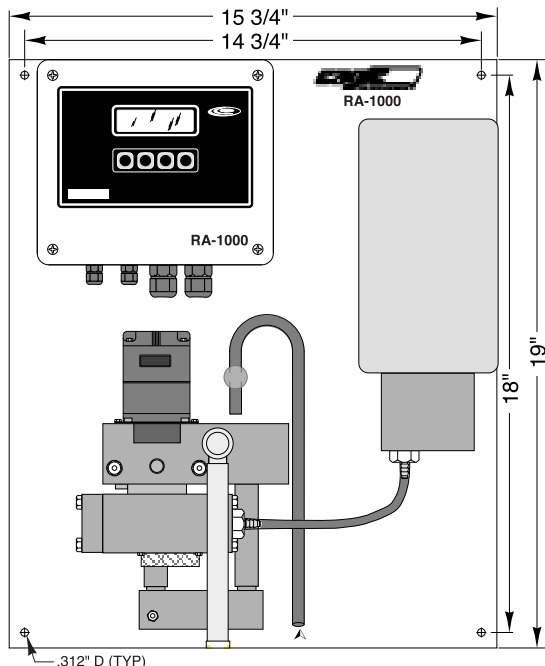
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MICROSYSTEMS

RA-1000

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## Residual Chlorine Analyzer

System Specifications	
System	
Ranges:	0.1 to 30.0 mg/l
	>30 mg/l consult factory
Electrodes:	
Measuring:	Gold
Reference:	Copper
Response:	4 sec. from time of sample entry
Sample flow:	500 ml/min.
Sample temp:	35-120 °F.
Ambient temp:	35-120 °F.
Instrument Specifications	
Display:	Backlit LCD, 2 line by 16 character
Electronics enclosure:	NEMA 4X (IP65)
Power requirement:	120 Vac, 60 Hz, 1 phase, others available
Power consumption:	12 W
Display response:	1-2 min. for full scale step change
Alarm:	Three, User programmable
	Adjustable 0-full scale
Relay contacts:	1.2A @125 Vac
Optional:	5.0A @ 250 Vac
Analog output:	Isolated 4-20 mAdc into 500 ohms max.
Optional digital output:	20 mA serial
Accuracy:	Better than 2% of range
Sensitivity:	0.001 mg/l (1 PPB)
Resolution:	0.001 mg/l (up to 2 mg/l range)
	0.01 mg/l (ranges 2.0 - 30.0 mg/l)



### Standard Equipment

Wall panel-mounted residual analyzer  
 Microprocessor-based indicator/controller  
 Reagent bottle  
 Tubing and tubing clamps

### Optional Equipment

Sample pump  
 Pressure reducing valve  
 CO2 gas pH buffer system  
 Flushing Y-strainer  
 Dual 4-20 mAdc analog output