

RA-1000

Residual Chlorine Analyzer



Features

- Auto zero function
- All digital control
- Continuous electrode cleaning
- Eight standard selectable ranges
- Measures free or total residual
- Full automatic control capability
- Pushbutton control of all functions

RA-1000

Description

The Eagle Microsystems Model RA-1000 Premier Series Residual Chlorine Analyzer is an amperometric instrument designed to continuously measure the residual of a number of different chemicals. Free or total chlorine, chlorine dioxide and potassium permanganate are all common applications for this instrument.

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 re-calibration of the instrument. Temperature compensation of the cell output is provided by a thermistor which senses cell temperature.

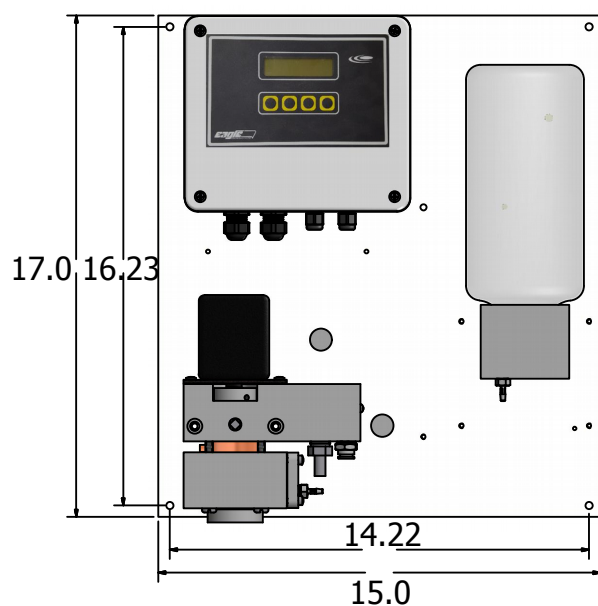
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RA-1000

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:	3A @125 Vac
Optional:	5.0A @ 250 Vac
Analog output:	Isolated 4-20 mA dc into 600 ohms max.
Optional digital output:	Second 4-20 mA DC, Modbus RTU
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)



Alternate Models:

RA-1100: A peristaltic pump provides buffering solution.
RA-1200: No buffering fixture provided, only recommended for applications with a steady ph less than 6

Optional Equipment:

Pressure reducing valve
CO2 Buffer system
Flushing Y strainer
Second 4-20 mA DC output