RPH-250 Residual Analyzer
With Self Cleaning Probe

The RPH-250 residual analyzer has several probe and measurement options spanning a variety of applications. This document specifically covers the RPH-250 utilizing the F3 potentiostatic, 3-electrode, self cleaning chlorine probe to measure free chlorine.

Features

- Free chlorine measurement using a potentiostatic 3-electrode chlorine probe
- Bare electrode with self cleaning head (i.e. no membrane caps to replace)
- Available with pH & temperature compensation without the need for buffer chemicals
- Does not use chemical reagents
- Pressurized flow cell with flow meter and flow control valve
- Optional sample water flow stop switch.

Controller Features

- Includes complete PID control
- Four selectable analog outputs (Residual, pH, Temperature and PID control)
- Four selectable alarm relays
- Optional data logger
- 2 line x 20 character LCD display
- Modbus RS-485 communication

Description

Measurement is continuous, not relying on sample and hold methods, thereby allowing for better process control.

The RPH-250 is usable for determining compliance with daily residual chlorine (free or total) monitoring requirements. It is compliant with US EPA regulation 40 CFR 141.74 and 40 CFR 141.131, method 334.0 for On-line Chlorine Analyzers.

The RPH-250 is optionally available with pH compensation performed in software and internal data logging capability. The analyzer includes a complete PID control program standard.

Because chlorine residual measurement probes are sensitive to pressure and flow fluctuations, the RPH-250 with F3 probe includes a 3” 0-28 GPH flow meter with flow rate adjustment valve. An optional pressure reducing valve with pressure gauge is available for applications that may experience changes in sample water supply pressure.

The F3 free chlorine probe uses an open electrode measurement design, eliminating the need for traditional membrane caps. A cleaning head is then used to keep the electrodes clean and free of air bubbles. The chlorine probe is easily accessible, easily serviceable and is low maintenance.

600 Emlen Way, Telford, PA 18969 ● Telephone: (215) 799-0980 ● Fax: (215) 799-0984
US Toll Free: (888) 38-HYDRO ● www.hydroinstruments.com ● sales@hydroinstruments.com

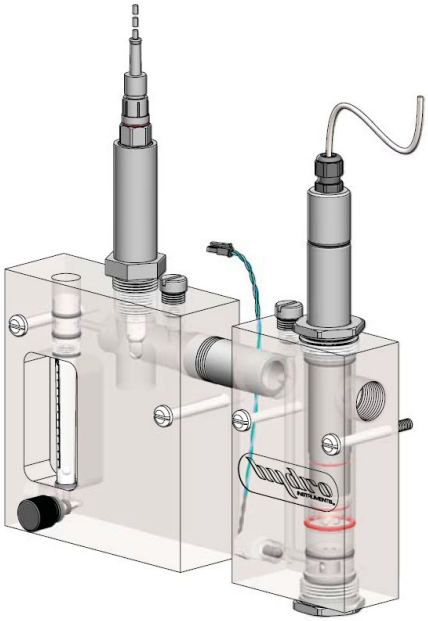
Basic Specifications

MEASUREMENT

Sample Water Flow Rate:	45-90 l/hr (12-24 gal/h) for F3 probe with CEH-F3 cleaning head
Sample Pressure:	15 PSI (1 bar) for F3 probe with CEH-F3 cleaning head
Sample Supply:	Continuous
Speed of Response:	T_{90}: Approx. 30 sec.
Resolution:	0.01 ppm or +/-1% of range, whichever is larger

ELECTRICAL

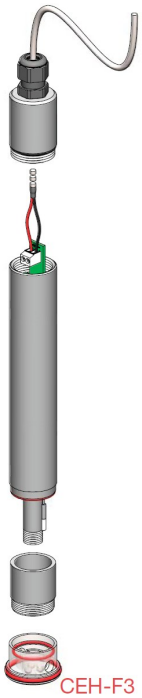
Power Requirements:	100-240 VAC, 50/60 Hz or 12-24 VDC
4 Analog Outputs:	(4) isolated 4-20 mA, selectable (Residual, pH, Temp. or PID control)
4 Relay Contacts:	10 Amps @ 120VAC or 24VDC 5 Amps @ 240VAC
PID Input:	4-20mA (Flow)
Modbus:	RS-485 RTU
Profibus:	Optionally supported
Data Logger:	Optional data logging writes data on a removable MicroSDHC card



F3 Sensor Overview

Probe Information		Range	Probe No.
Measurement:	Free Chlorine	0—1.00 PPM	F3-1
pH & Temp.:	5-9 pH, 0-50°C / 0-122°F	0—2.00 PPM	F3-2
Type:	Open measurement (i.e. does not use a membrane cap), potentiostatic 3-electrode with self cleaning head	0—5.00 PPM	F3-5
Application:	Drinking water		
Interferences:	ClO_2, O_3, Water cannot contain corrosion inhibitors.		
Electrolyte:	REH-F3		
Flow Cell Type:	Pressurized flow cell		

Recommendation to determine the most suitable measuring range:
⇒ PPM to be measured x 1.5 = Probe range



600 Emlen Way, Telford, PA 18969 ● Telephone: (215) 799-0980 ● Fax: (215) 799-0984
US Toll Free: (888) 38-HYDRO ● www.hydroinstruments.com ● sales@hydroinstruments.com