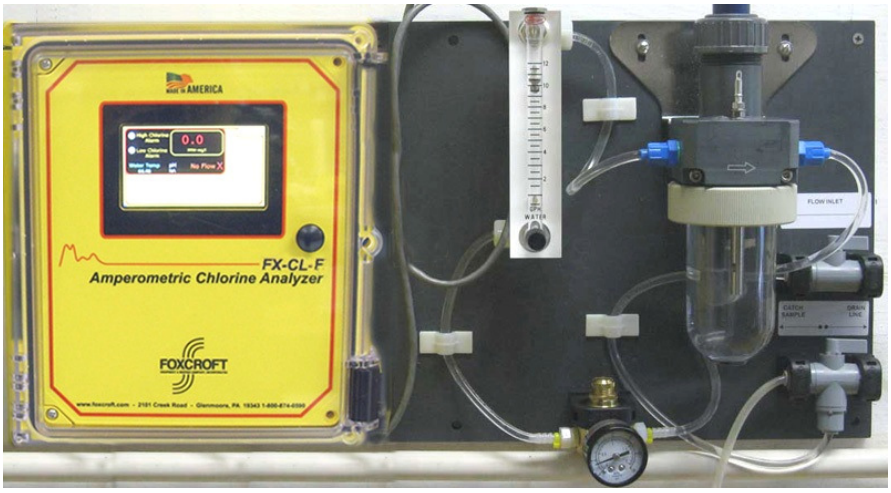
MODEL FX-CLF AMPEROMETRIC FREE CHLORINE ANALYZER



The Foxcroft FX-CLF amperometric reagentless free chlorine residual analyzer reliably measures continuously without moving parts in a variety of applications with clean filtered water of drinking or swimming pool quality.

Reagentless, bufferless operation and no zero point calibration reduce the cost of operation and maintenance.

Mounted on a flow panel, the system installs quickly and is ready to use after connecting your output, sample and drain lines, and filling the sensor membrane cap.

The 3-electrode membrane covered potentiostatic chlorine sensor for 4-9 pH is less affected by pH than other sensors. Customers monitoring up to 8pH report accurate comparison to lab and grab sample results without the additional expense of a pH sensor for pH compensation or external buffer feed.

High range chlorine concentrations up to 200ppm can be measured using our 2-electrode sensor in pH range 6-7, or with our 3-electrode sensor with reduced pH dependence for pH range 4-9.

The 4.3" full color glass LCD touch screen interface is rated for a minimum of one million touches on one point and simplifies calibration and configuration. It displays residual in mg/L (PPM), high / low chlorine alarm indication, optional flow status or alarm, and processor status.

Designed for 24/7 operation, the system can also be used at well sites or booster stations that only operate several hours each day since the sensor can tolerate zero chlorine water for up to 24 hours. A settling time of up to 1-2 hours is required upon re-start. With no reagent addition, sample can be recycled back into the process if permitted.

The heavy duty designed analyzer is made in the USA with a feature packed electronics platform providing expansion capability that can grow with your needs.

Standard Product Features:

- Online amperometric test method is approved for drinking water compliance monitoring EPA Method 334.0
- Calibrate & configure settings via 4.3" full color glass LCD touch screen display
- No zero point calibration
- Microprocessor based RoHs compliant electronics, American made 53 miles from our facility
- Integrated temperature compensation
- (1) 4-20mA output, diode protected against voltage input of 50V min, 30 amps peak
- High and low alarms with fully configurable levels & delay; no flow alarm optional
- (3) 1A SPDT form C relays for high/low chlorine & optional flow alarm

Foxcroft Equipment & Service Co. Inc. • 2101 Creek Road Glenmoore, PA 19343
• Phone (610) 942-2888 •Toll Free (800) 874-0590
Fax (610) 942-2769 • www.foxcroft.com • E-mail: sales@foxcroft.com

MODEL FX-CLF AMPEROMETRIC FREE CHLORINE ANALYZER

SPECIFICATIONS: #30120X Series Amperometric Free Chlorine Sensor

Measurement Type:	Amperometric, membrane covered 2-electrode potentiostatic sensor
Recommended Applications & Sample Quality:	Measure free chlorine (as HOCL) concentration in filtered, clean water that has drinking or swimming pool quality WITHOUT surfactants (detergents) or hydrophobic (moisture repelling) substances such as oil or grease. NOT RECOMMENDED TO VERIFY THE ABSENCE OF CHLORINE.
Measuring Range:	0.05-0.5, 0.05-2, 0.05-5, 0.05-10, 0.05-20, 0.05-50, 0.05-100, 0.05-200 mg/L (PPM).
Resolution:	0.01 mg/l, for ranges up to 10 mg/l, 0.1 for range 0.5-100/200 mg/l
Accuracy:	+/- 2% of full scale
Slope Drift (Stability):	Approx. < -1 % per month
Sensor Response Time T_{90}:	Approx. 30 seconds
Sensor Acclimation Time:	1 Hour initial start up, about 30 minutes to re-polarize thereafter
pH Operating Range	6 - 8 pH per hypochlorous acid pH dissociation curve. pH must not fluctuate more than + / - 0.05pH unit. Optimum readings between 6-7pH
pH Dependence / Measurement Error	None between 5-7 pH; measurement error 65% loss of slope at 8 pH
Interfering / Disruptive Substances:	Chlorine dioxide, ozone
Sample Flow Requirements:	Continuous flow, no air bubbles,15cm/sec (0.492 ft/sec), 30L/hr (8 GPH) in flow cell
Sample Temperature:	+5 to +45°C
Temperature Compensation:	Automatic integrated temperature compensation
Operating Pressure:	Recommend unpressurized; pressurized operation at 1 bar max. with no fluctuation
External pH Buffer or Reagent Addition:	None
Zero Point Calibration:	Not required
Sensor Construction:	PVC shaft, cover. Gold working electrode, combination reference & counter electrode silver with silver halide coating.
Dimensions & Weight:	Diameter: 25 mm, length: 220 mm, Approx. 125 g
Membrane, Cap & Electrolyte:	PVC cap, hydrophobic (moisture repellent) microporous PTFE membrane. Liquid pH buffered electrolyte solution containing alkali halide.
Cap & Electrolyte Replacement:	Membrane cap yearly, electrolyte every 3-6 months; all depending on water quality. Electrolyte capacity 8 ml
Sensor Storage:	Unlimited if stored frost free, dry, without electrolyte between +5 to +45°C
Electrolyte Storage:	One year in original bottle, shielded from sunlight between +5 to +25°C
USED Membrane Caps:	USED membrane caps cannot be stored and re-used
Warranty:	One year from date of factory shipment

Foxcroft Equipment & Service Co. Inc. • **2101 Creek Road Glenmoore, PA 19343**
• **Phone (610) 942-2888** •**Toll Free (800) 874-0590**
Fax (610) 942-2769 • **www.foxcroft.com** • **E-mail:** **sales@foxcroft.com**

MODEL FX-CLF AMPEROMETRIC FREE CHLORINE ANALYZER

SPECIFICATIONS: #30125X Series Free Chlorine Sensor, Reduced pH Dependent

Measurement Type:	Amperometric, membrane covered 3-electrode potentiostatic sensor
Recommended Applications & Sample Quality:	Measure free chlorine (as HOCL and OCI-) concentration in filtered, clean water of drinking or swimming pool quality WITHOUT surfactants (detergents) or hydrophobic (moisture repelling) substances such as oil or grease. NOT RECOMMENDED TO VERIFY THE ABSENCE OF CHLORINE. Minimim Conductivity 10 µS/cm
Measuring Range:	0.05-2, 0.05-5, 0.05-10, 0.05-20, 0.05-200 mg/L (PPM).
Resolution:	0.01 mg/l, for measurement range 0.05-2 up to 20mg/l; 0.1 mg/l, for 200 mg/l
Accuracy [1] : range 2 mg/l	< 1 % with 0.4 mg/l, < 1 % with 1.6 mg/l
range 20 mg/l	< 3 % with 4 mg/l, < 3 % with 16 mg/l
Slope Drift (Stability):	Approx. < -1 % per month
Sensor Response Time T_{90}:	Approx. 2 minutes
Sensor Acclimation Time:	2 Hours initial start up, about 30 minutes to re-polarize thereafter
pH Operating Range, Measurement Error	4-9 pH per hypochlorous acid pH dissociation curve. pH must not fluctuate more than + / - 0.05pH unit. No error between 5-7 pH; starting at pH 7 measurement error 10% loss of slope for each pH unit increase.
Interfering / Disruptive Substances:	Combined chlorine, chlorine dioxide, ozone disruptive. Iron & manganese concentrations above drinking water MCL are disruptive.
Sample Flow Requirements:	Continuous flow, no air bubbles, 15cm/sec (0.492 ft/sec), 30L/hr (8 GPH) in flow cell
Sample Temperature:	+5 to +45°C
Sample Conductivity:	50µS / cm minimum
Temperature Compensation:	Automatic integrated temperature compensation
Operating Pressure:	Unpressurized or pressurized operation up to 3 bar max. with no fluctuation
External pH Buffer or Reagent Addition:	None
Zero Point Calibration:	Not required
Sensor Construction:	PVC shaft. Gold working electrode, reference electrode silver with silver halide coating, counter electrode stainless steel.
Dimensions & Weight:	Diameter: 25 mm, length: 220 mm, Approx. 125 g
Membrane, Cap & Electrolyte:	PVC cap, Hydrophilic (moisture attracting) microporous membrane. 8 ml of liquid pH buffered electrolyte solution containing alkali halide.
Cap & Electrolyte Replacement:	Membrane cap yearly, electrolyte every 3-6 months; all depending on water quality.
Sensor Storage:	Unlimited if stored frost free, dry, without electrolyte between +5 to +45°C
Electrolyte Storage:	One year in original bottle, shielded from sunlight between +5 to +25°C
USED Membrane Caps:	USED membrane caps cannot be stored and re-used
Warranty:	One year from date of factory shipment

1. After calibration under replicable conditions (25 °C, pH 7.2 in drinking water) from the measuring range end value

Foxcroft Equipment & Service Co. Inc. • 2101 Creek Road Glenmoore, PA 19343
• Phone (610) 942-2888 •Toll Free (800) 874-0590
Fax (610) 942-2769 • www.foxcroft.com • E-mail: sales@foxcroft.com

MODEL FX-CLF AMPEROMETRIC FREE CHLORINE ANALYZER

SPECIFICATIONS: FX-CL-F Amperometric Free Chlorine Residual Analyzer

Measurement Type:	Amperometric, membrane covered 3-electrode potentiostatic sensor
Electronics:	Digital mircoprocessor based, 24VDC, settings retained in non-volatile memory
Power Supply:	Switching 100-264 Volts AC, 50/60 Hz., output: 24VDC 2.2A
Power Input:	6A Fused, IEC 320-C14 connector, SPST switch, 2 meter detachable cord with IEC 60320 C13 & NEMA 5-15P connectors
Power Consumption:	Less than 3 watts
Touch Screen Display:	Resistive 4.3" glass LCD, LED backlight, screen resolution 480 x 272, durability rated at minimum 1 million touches on any one point
Temperature Compensation:	Automatic integrated temperature compensation (in sensors)
Signal Output:	Loop powered 4-20mA DC, 750 Ohm maximum load, (2) standard, up to (4) optional, diode protected against voltage input 50V min, 30 amp peak
Sensor Input:	Up to (8) available optionally, signal wire diode protected against overvoltage, power wire auto-reset fuse protected against overvoltage
Communication:	RS485 serial port (inactive as standard)
Relay Contacts:	(3) SPDT (Form C) contacts, rating 1 amp dry closure. Up to (8) optionally
Alarms:	High & low disinfectant, configurable levels and delay. Low flow alarm if flow meter with optical flow switch option selected
Electronics Enclosure:	IP67/NEMA 4X, polycarbonate with UV resistant clear door, swing out inner panel
Enclosure Dimensions:	11.75" H x 10.2" W x 5.5" Deep approximate
Dimensions, PVC Mounting Panel	1/2" thick x 12" High x 24" Wide, (4) 5/16 " dia. holes for 1/4" screws
Measuring Flow Cell Connection:	Hose barb for 3/8"OD x 1/4" ID flexible PVC clear tubing
Flow Meter Connection:	Inlet 1/8" FNPT, Outlet hose barb 1/4" ID tubing
Standard Sample & Waste Tubing:	3/8" OD x 1/4" ID flexible PVC. Sample 3-ft long, Waste 5-ft long included
Warranty:	One year from date of factory shipment

Foxcroft Equipment & Service Co. Inc. • 2101 Creek Road Glenmoore, PA 19343
• Phone (610) 942-2888 •Toll Free (800) 874-0590
Fax (610) 942-2769 • www.foxcroft.com • E-mail: sales@foxcroft.com