# **GF 2630 Amperometric Free Chlorine Electrode**





The GF 2630 Amperometric Chlorine electrode is designed to measure free chlorine in fresh water treatment applications. The electrode is available with a measurement range of 0.02 to 2 ppm, 0.05 to 5 ppm or 0.1 to 20 ppm. This electrode requires the 2650 Amperometric Electronics to output a digital (S<sup>3</sup>L) signal to the 9950-X Chlorine Controller.

Utilizing smart-sensor technology, this electrode has a unique embedded memory chip and can communicate a wide variety of information to the 9950-X Chlorine Controller. The 9950-X can display the electrodes stored information which includes the serial number, electrode type, service time in hours, chlorine range, high and low temperatures, and the maximum and minimum pH detected over time.

The patented DryLoc® connector with its Gold plated contacts and O-ring seal ensure a waterproof and reliable interconnect to the 2650 electronics and allows quick assembly during system start up, while providing a easy way to service or replace the Amperometric electrode.

> NOTE: This electrode is required to be in chlorinated water at ALL times.

### Features

- Embedded memory chip accessible via the 9950-X Chlorine Controller
- Quick assembly with the patented DryLoc<sup>®</sup> connector
- Integrated temperature element for automatic temperature compensation
- Separate drive electronics (2650 Electronics), for easy servicing and electrode replacement



### **Applications**

**Residual Chlorine Monitoring:** 

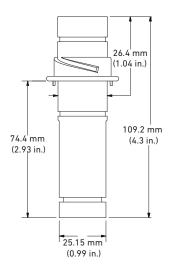
- Water Distribution
- Ground Water
- Surface Water
- HVAC Applications (cooling water)
- Food and Beverage
- Swimming Pools
- Water Parks
- \* NOTE: The 9950-X Chlorine Controller is not compatible with the standard 9950 controller.

# **Specifications**

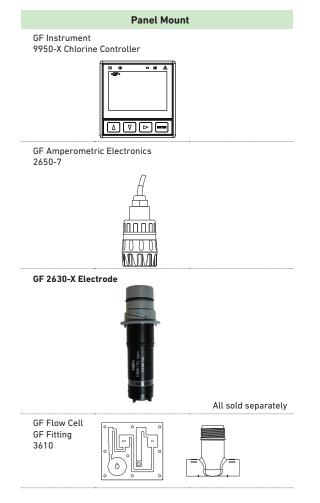
General				
Polarization Source	2650 Amperometric Electronics			
Compatible Flow Cells	3-4630.392 (159 001 690)			
	3-3610-1 (159 001 683)			
	3-3610-2 (159 001 684)			
Mounting	DryLoc connection			
Materials	CPVC			
Free Chlorine				
Membrane Material	PTFE			
O-ring Material	FKM			
Working Electrode	Gold			
Counter Reference Electrode	Silver halide			
Wetted Material				
	PVC, PTFE, FKM, Nylon, Silicone			
Performance				
Electrode				
Repeatability	±0.08 ppm (mg/l) or 3% of se	±0.08 ppm (mg/l) or 3% of selected range whichever is less		
Slope 15 to 60 nA/ppm (mg/L) @ 25 °C				
Response Time, T90	< 2 minutes			
System (including electronics and ir	nstrument)			
Accuracy	<pre>&lt; ±3% of electrode signal after calibration</pre>			
Resolution	±0.5% of electrode range			
Sensor Conditioning	g			
New, first start-up	4 hours maximum before calibration			
Subsequent start-ups	2 hours maximum			
Temperature Element	Pt1000			
Operational Ranges and Limits				
Free Chlorine Range	0.02 to 2 ppm (mg/l)	0.05 to 5 ppm (mg/l)	0.1 to 20 ppm (mg/l)	
Free Chlorine pH Operating Range	5.5 to 8.2 pH			
Operating Temperature	5 °C to 45 °C	41 °F to 113 °F		
Maximum Operating Pressure				
Membrane	0.48 bar @ 25 °C (7 psi @ 77	°F)		
Flow Velocity Across Membrane Su				
Minimum	15 cm/s (0.49 ft/s)			
Maximum	30 cm/s (0.98 ft/s)			
Sensitivity	ClO <sub>2</sub> , ozone, bromine			
Chemical Compatibility	< 50% ethanol/water, < 50% g	alycerol/water		
Environmental				
System Temperature	-10 °C to 60 °C	14 °F to 140 °F		
Storage Temperature	-10 °C to 60 °C	14 °F to 140 °F		
Relative Humidity	0 to 95% indoor/outdoor non-condensing to rated ambient			
Shipping Weight				
	0.14 kg	0.30 lb		
Standards and Approvals	0.17 Ng	0.00 (b)		
	CE, FCC			
	RoHS compliant, China RoHS			
Manufactured under ISO 9001 for Quality				

### **Dimensions**

#### 3-2630-X



## System Overview



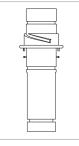
### **Application Tips**

- Amperometric sensors require the water to be Chlorinated at ALL times.
- The sensors should not be used in water containing surfactants, oils, organic chlorine or stabilizers such as cyanuric acid.

#### **Ordering Notes**

The sensor must have a stable and constant flow of water past its membrane for accurate free chlorine measurement. Typical flow rate should be 30.24 - 45.36 lph (8 - 12 gph).

## **Ordering Information**



Mfr. Part No.	Code	Description
3-2630-1	159 001 746	Free Chlorine Electrode, 0.02 to 2 ppm (mg/l)
3-2630-2	159 001 662	Free Chlorine Electrode, 0.05 to 5 ppm (mg/l)
3-2630-3	159 001 747	Free Chlorine Electrode, 0.1 to 20 ppm (mg/l)

## **Accessories and Replacement Parts**

Mfr. Part No.	Code	Description		
3-2630.398	159 310 166	Free Chlorine Sensor Maintenance Kit - (2) electrolyte and (2) PTFE membranes, (2) silicone bands, polishing papers		
3-2630.391	159 001 674	Free Chlorine Electrolyte Kit, 30 ml (2) bottles with syringe and needle		
3-2630.394	159 310 164	Free Chlorine and Chlorine Dioxide replacement PTFE membrane (1)		
3-2600.510	159 500 422	Silicone Band, Chlorine Sensor		
3-3610-1	159 001 683	Flow Cell, Clear PVC 1/2" Tee		
3-3610-2	159 001 684	Flow Cell, Clear PVC 1/2" Tee, Barb Conn		