Technical Data Sheet
Chlorine Dioxide Sensor

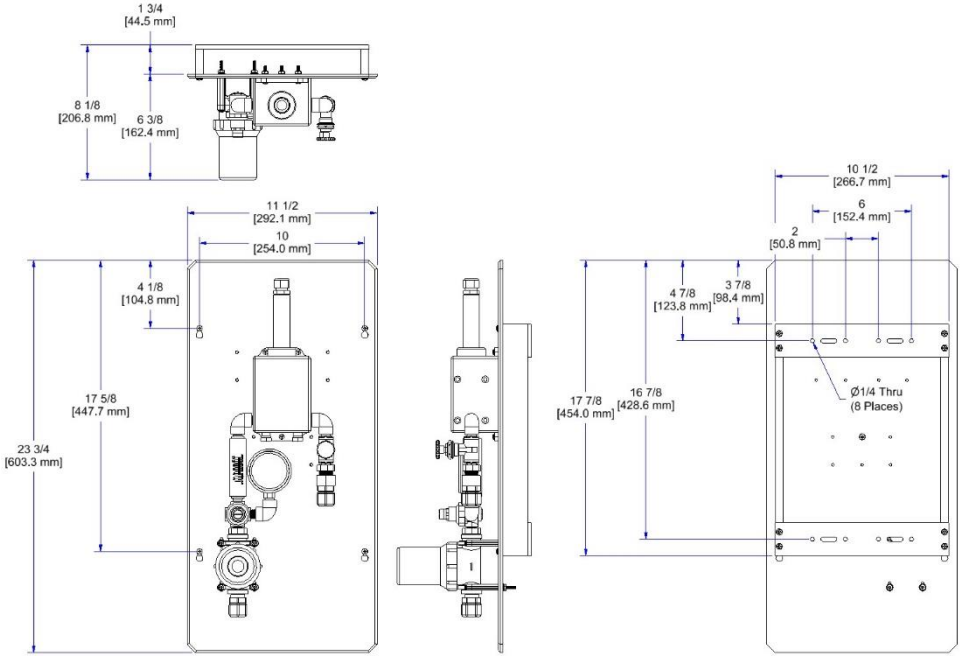
The Chlorine Dioxide Sensor is an option available for BECSys7 and BECSys5 controllers. This sensor provides a direct reading of the chlorine dioxide in the pool. This sensor is typically used with the proprietary Cryptolyte® feature implemented on BECSys7 and BECSys5 controllers.

This sensor features a replaceable membrane cap and electrolyte, assuring years of reliable service.

The sensor comes with a machined flow cell, which includes a strainer as well as pressure and flow regulators for ease of installation in a variety of conditions to assure the constant flow required for an accurate reading. Maximum accuracy will be achieved with a stable influent flow/pressure and effluent to free outlet, such as a surge tank. However, effluent can alternatively be plumbed to a stable low pressure. Effluent can be plumbed to a stable vacuum, but this will require more frequent replenishment of the sensor electrolyte. The most stable influent flow/pressure is typically available pre-filter at the effluent of the circulation pump, although in some installations using a booster pump may be a more practical approach. In installations where a VFD will maintain a constant flow rate through the circulation system, the influent for the PPM sensor flow cell can be taken post-filter.

Features

- Sensor provides a direct measurement of the concentration of chlorine dioxide
- Simple maintenance and electrolyte replacement
- Ready-made membrane cap allows quick and easy membrane change



Specifications

Part Numbers	
Chlorine Dioxide sensor with flow cell assembly	2100490
Replacement Chlorine Dioxide sensor (without flow cell assembly), includes sensor, membrane cap, electrolyte and cathode polishing strip	8660097
Replacement Membrane Cap	8680096
Replacement Electrolyte	8680097
Physical	
Sensor Dimensions	8.6” L x 1” diameter
Sensor Housing	PVC-U
Membrane Material	Proprietary semipermeable
O-ring material	Viton®
Electrode Construction: Cathode Anode	 Gold Silver Chloride (AgCl)
Flow Cell Assembly	PVC Back Panel, Needle Valve and Fittings, UV Stabilized Polyethylene Body, NSF grade Noryl Thermoplastic Pressure Regulator, Oil-Filled Pressure Gauge, Acrylic Flow Restrictor, Thermoplastic Compression Fittings, Stainless Steel Hardware
Environmental	
Sensor Storage Temperature Range (remove electrolyte before storing)	41 °F to 104 °F (5 °C to 40 °C)
Electrolyte Storage Temperature Range	41 °F to 95 °F (5 °C to 35 °C) in original bottle protected from sunlight
Membrane Storage Temperature Range	41 °F to 104 °F (5 °C to 40 °C) in original packaging
Operating Temperature Range	32 °F to 113 °F (0 °C to 45 °C)
Electrical	
Output Current	Approximately 1.6mA per mg Cl_2/l
Operating Voltage	12…30 VDC
Connection	2-pole terminal clamp; 120” 2-conductor cable included with PN 2100490
Polarization Time	Initial Polarization, approximately 1 hour After flow interruption < 1 hour, approximately 30 minutes
Temperature Compensation	Internal
Interface to BECSys controller	4-20 mA Requires one aux input and loop power supply in BECSys7 and BECSys5
Performance	
Measurement Span	0 to 10 ppm
Response Time for Measurement Jump:	T_{90} approximately 15 seconds
Cross-Sensitivity	Cl_2 registered with factor 0.35 of 1st measure value Ozone (O_3) Water must not contain surfactants (tensides)
pH Range	1 – 12
Flow Rate	Approx 8 gph (30 lph) recommended
Maximum Operating Pressure	1 bar / 14.7 psi / 1 atm with circlip
Shelf life of Electrolyte	One (1) year

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