

DC-80 De-Chlorination Analyzer



ELECTRO-CHEMICAL DEVICES

Features

- Zero Shift method, 0.00 ppm to 20.00 ppm
- Automatic pH Compensation
- Automatic Flow Control
- T80 Analyzer Capability
- Panel Mounted System Plumb and Play Design

Benefits

- Chlorine metered into flow cell subtracted from measurement
- No Expensive Reagents
- Eliminates Pressure Regulators and Rotameters
- Dual Measurements, (2) 4-20 mA and (3) Alarm Relays, 24VDC or 110/220 VAC Power, Auto clean option
- Complete System, Easy Installation, Ready to Use



*Model DC-80
De-Chlorination Analyzer*

Description

The Model DC-80 is a panel mounted, ready to use De-Chlorination Analyzer. Since amperometric chlorine sensors are unstable when measuring near zero amounts of chlorine, the DC80 Analyzer uses the “zero shifted” strategy to make the measurement. A TC80 Total chlorine Analyzer is fitted with a chlorine dosing pump that feeds a metered amount of chlorine into the outfall of the Constant Head Flow Controller. An “Offset” feature allows the zero point to be shifted by the amount of chlorine that is added. The Total Chlorine sensor is now measuring 3-5 ppm of total chlorine which provides for a stable and reliable measurement and the analyzer displays the concentration of Total Chlorine present in the sample. Calibrations are accomplished by DPD comparison.

The TCA Sensor is a three electrode amperometric sensor with a Gold cathode, Silver Halide anode and 304 SS counter electrode. The Counter electrode provides a stable base potential that minimizes drift. The TCA sensor has a micro-porous membrane that allows ions to diffuse in and out of the sensor. The various chlorine species in the measured solution diffuse into the sensor and react

with the acidic potassium iodide electrolyte to form iodine. The iodine is reduced at the cathode back to iodide and the current flow between the cathode and silver iodide anode is proportional to the Total Chlorine. The pH sensor provides accurate compensation for samples between pH 4 and pH 12 and eliminates the need for an expensive sample conditioning system. The T80 graphically displays both the Total Chlorine and pH allowing easy trend analysis.

Amperometric chlorine sensors are flow sensitive, the minimum required flow by the sensor is 0.5 ft/sec, above this value the output is virtually flow independent. A “Constant head” Flow controller maintains the optimum flow by the sensor over a wide range of incoming sample flow rates. The minimum flow required is 10 gal/hr and the maximum flow is 80 gal/hr with the sample going to drain at atmospheric pressure.

The Auto Clean option includes a solenoid actuated spray cleaner that uses either 30 psi process water or compressed air to clean the electrode surfaces. An easily adjusted timer controls the period and duration of the cleaning cycle. (shown above)

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Specifications

Sensor and Flow Train

Sensor

Amperometric, Three Electrode, Gold-Cathode/Silver-Silver Halide-Anode/ 304 SS counter electrode, Digital

Measurement Range

Chlorine Zero Shift: 0.00 - 20.00 ppm and < 0.00 ppm

Chlorine: 0.05 to 20.00 ppm

pH: 4 to 12 pH

Operating Temperature

0° C to 45° C (32° F to 113° F)

Min/Max Flow

38 L/hr to 300 L/hr (10 gal/hr to 80 gal/hr)

Wetted Materials

PVC, PP, PVDF, PTFE, Glass, 304 & 316 SS

Process Connections

Input 1/4" barb fitting (1/4" FNPT), Drain 3/4" FNPT fitting

Response Time

T90 approximately 2 minutes

Electrode Life

Total Chlorine Sensor Refill electrolyte every 6 months

pH Sensor Replace yearly

T80 Transmitter

Measurements

Chlorine: 0.001 to 999.9 ppb, ppm, auto ranging

pH: 0 to 14 pH

Temperature: 0° C to 100° C (32° F to 212° F)

pH Compensation

pH 4 - 12

Display

2.5" X 1.75" backlit LCD, 4 lines for Text & Graphical

Enclosure

NEMA 4X, LxWxD: 5.7" x 5.7" x 3.5"

Outputs

(1) 4-20 mA for Total Chlorine, set 0-20 ppm

(1) 4-20 mA for pH, set 0-14 pH

Alarm Relay Ratings

(3) SPDT 230 VAC/5A

Input Power

110/220 VAC @ 50/60 Hz

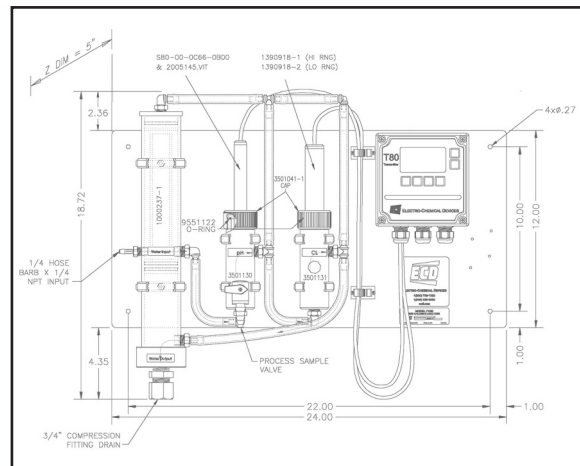
Optional 24 VDC (12 to 50 VDC) @ 0.25A

Chlorine Dosing Pump

Peristaltic, 110/220 VAC 50/60 Hz, 10 ft. (3 m) tubing

Part No.	Model and Product Description
DC80-01-2200	DC-80, complete, panel mounted, dosing pump, auto pH compensation, 110/220 VAC
DC80-01-1200	DC-80, complete, panel mounted, dosing pump, auto pH compensation, 24 VDC
DC80-01-2210	DC-80, complete, panel mounted, dosing pump, auto pH comp, 110/220 VAC, with spray cleaner
DC80-01-1210	DC-80, complete, panel mounted, dosing pump, auto pH comp, 24 VDC, with spray cleaner

Part No.	Spare Parts and Accessories Description
1391005-1	Total Chlorine Sensor
1000248-1	Recharge Kit, (membrane and refill sol'n)
1000245-1	Membrane Replacement Kit
1000246-1	Electrolyte Refill Kit
S80-00-0C00-0C00	S80 pH Sensor, Complete
2005145.VIT	Replacement pH Cartridge
3501131	Flow Cell, Chlorine
3501130	Flow Cell, pH
1000263	Cable assembly, Total Chlorine sensor, 2 meter
2000205-1	Chlorine Dosing Pump, peristaltic
2000108	10 ft. (3m) tubing with injection fitting



Specifications subject to change without notice.

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