

The JCS Industries Model 4180 All Vacuum Chemical Feeder is for operations that require high efficiency, accuracy, control and safety. The Model 4180 will feed a chlorine dioxide solution used in municipal and industrial water treatment systems.

The system is comprised of a vacuum injector that safely introduces sodium hypochlorite, sodium chlorite, and hydrochloric acid simultaneously into the feed-water stream.

The Model 4180 uses triple reversing servo motors coupled with v-notch valves to regulate the chemical feed rate, an electronic flow sensor for the sodium chlorite, sodium hypochlorite, and hydrochloric acid to generate a >95% ClO₂ solution. The unique design allows for a continuous adjustment of all of the chemicals based off the actual chlorite feed rate to ensure accurate feed throughout the operator's desired range. Internal electronics allow for feed system to be remotely monitored and controlled from users SCADA.

The JCS Model 4180 Chlorine Dioxide Generator will automatically regulate in both fixed and variable control modes.

Control Modes:

- Fixed Feed Rate
- Flow Paced
- Residual/pH Control
- Compound Loop



- **A wide feed range: 0 to 5000 PPD ClO₂**
- **A turn down ratio of 100:1**
- **High accuracy: +/- 1% of actual feed**
- **System Flexibility: four control modes**
- **Battery Backup: up to 1.0 hours of backup**
- **Programmable microprocessor**
- **No air binding**
- **Metering to validate actual flow rate**
- **Multiple failure mode alarms**

Note* Liquid feed portion of system covered under US Patent number 7,776,275

Range	●	5% - 400% in 0.01% Increments 0 - 5000 PPD ClO ₂
Accuracy	●	+/- 1% of Actual Feed Rate
Power Supply	●	110/220 VAC, 50/60 Hz
Battery Backup	●	24 VDC, 1 Amp Hours
Operating Temperature	●	32 degrees F to 102 degrees F
Enclosure Protection	●	IP 66,67
Display	●	Backlit LCD, 16 characters X 2 lines
Connections Inlet & Outlet	●	2" Socket
Inputs	●	Flow, Residual/pH 4-20mA DC
	●	Remote Start & Stop Volt Free
Outputs	●	Chemical Feed 4-20mA DC
	●	Rate System Failure Power supply, chemical feed drive motor and set point-all volt free.
Dimensions (Including Wall Mounted Panel)	●	48 " L x 96" W x 10" H
Weight	●	150 Lbs

Characteristics

The plant's water flow rate and/or a chemical residual signal shall be used to adjust the disinfection chemical liquid flow rate by electronically positioning the servo motor driving the feed control valve. The ratio of input signal to liquid flow shall be adjustable over a range of 5% to 400%. This enables increased liquid feed in response to additional chemical demand. Where compound loop control is required, the Model 4180 controller will receive three analog signals and feed to a user defined set point without the need for an additional PID controller. A compound loop with a second trim signal and remote control signal must be included. A provision is available for user adjustment of flow and residual/pH dynamics factor to ensure accuracy of dosage control. In the automatic or manual mode, output relay contacts will provide the means for alarm and control functions. All relays are to be user selectable as normally open or normally closed. A 4-20mA output signal of the actual chemical feed rate is supplied.