

HP Series
Chlorine Dioxide Injection System



PureLine
HP

This document covers the specifications and materials necessary for the installation of an electrolytic, single pre-cursor, chlorine dioxide injection system for the purpose of legionella control and/or industrial use water.

▼ Manufacturer Qualifications

- HP Series Chlorine Dioxide generator as manufactured by PureLine Treatment Systems.
1241 N. Ellis Rd. Bensenville, Illinois 60106, 847-963-8465. www.pureline.com.
- PureLine has successfully designed and manufactured patented chlorine dioxide generators for the past 20 years.
- PureLine has over 400 systems in operation across a broad range of applications throughout the United States.
- PureLine is a subsidiary of Grace Bros. Ltd.
- PureLine maintains an in house, qualified engineering and design staff.
- PureLine manufactures their generators in their own physical plant employing qualified fabricating personnel.
- PureLine maintains a highly qualified service group that provides training, service, and support throughout the United States.

▼ Generator Specifications

- **Generator Type:** The generator shall be an HP series electrolytic chlorine dioxide generator capable of converting sodium chlorite to chlorine dioxide in situ according to the reaction:
 $\text{NaClO}_2 \rightarrow \text{ClO}_2 + \text{e}^-$, (one electron anodic action).
- **Purity:** Chlorine Dioxide solution shall not be less than 99% (ClO₂ vs. all other Cl species)
- **Process Control & Interface:** the generator shall utilize the Allen Bradley Micro Logic 1400 PLC.
- **Chemical Usage:** The generator shall be capable of producing pure chlorine dioxide using a single pre-cursor chemical, PureCide E, supplied as a 31% solution at a rate of not more than 6.5 lbs per lb. of chlorine dioxide.
- **Warranty:** One year warranty from date of shipment or acceptance by the engineers.
- **Operations and Maintenance Manuals:** including installation requirements, and detailed electrical and process schematics will be provided by PureLine.
- **Technical and Maintenance Service Programs:** The generator shall include an annual preventative maintenance plan as provided by PureLine Treatment Systems to maintain manufacturer's warranty.
- **Exceptions:** No exceptions shall be allowed TO THIS SPECIFICATION, the generator will not utilize any form of acid or chlorine gas in any capacity, be it drum, tote, cylinder, interchangeable cartridge, etc. The generator will not introduce any form of heavy metals into the water in any form i.e. copper or silver.
- **Product Purity & Concentration:** Utilizing PureLine's patented electrolytic cell technology, the generator will produce 99.5% pure 3000 ppm chlorine dioxide solution which will be diluted and paced so as to not exceed the maximum allowable concentration of 0.8 ppm for drinking water. Industrial use water dosage may vary by need.
- **Water Usage:** The generator will utilize approximately 45 gallons of water via facility water supply per day per pound of chlorine dioxide produced.
- **Water Pressure:** Water pressure must be no less than a constant 50 psi.
- **Electric Power:** The generator shall operate on (1) 220VAC, 1 PH, 30a circuit.
- **Effluent:** Customer will make arrangements for small amounts of byproduct drainage.
- **Process Cabinet:** cabinet construction shall be of white polypropylene.
- **Dimensions:** 52.25" wide x 75.5" high x 28.25" depth
- **Weight:** 500 lbs.

▼ Generator Specifications

Scope of Supply by Customer as follows:

- Potable water, Power, Control Signals as required.
- **Location:** enclosure or atmosphere controlled room, access for service, area for chemical storage, area for safety shower and eye wash station, off loading equipment.

OPTIONS

- Chemical feed and control system.
- **ClO₂ Solution Delivery:** The generator may have up to (3) internally housed distribution pumps dependent on application and be capable of being started or stopped by an external contact.
- **Method of Control:** The distribution pump output shall be controlled by a combination of flow pacing and residual measurement for legionella control and or industrial applications.
 - **Residual Measurement Equipment:** The generator shall utilize the Chlorine Dioxide specific probe and Controller (PCA) as manufactured by PureLine Treatment Systems for purposes of residual control.
 - **Flow Pace Equipment:** The generator shall utilize an ultrasonic, non-insertion, clamp on flow meter with 4-20 mA signal utilizing Doppler or Transit Time based on water type or owner provided in-line meter with 4-20mA signal supplied to generator. (SUPPLIED BY CUSTOMER OR EXTRA BY PURELINE)
- **Inlet Water:** booster pump with interface controls if needed to enhance and stabilize water pressure.
- **Remote Diagnostics:** available if requested.

▼ Connections on the HP System are as follows:

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| • PureCide E pre-cursor inlet: | 1/2" FPT Sch. 80 PVDF tube fitting |
| • City Water Inlet: | 1/2" FPT Sch. 80 PVC stainless steel reinforced |
| • RO Waste Outlet: | 1/2" FPT Sch. 80 PVC stainless steel reinforced |
| • Absorber Drain Outlet: | 1/2" FPT Sch. 80 PVC stainless steel reinforced |
| • Anolyte Effluent Outlet: | 1" FPT Sch. 80 PVC stainless steel reinforced |
| • Catholyte Effluent Outlet: | 1/2" FPT Sch. 80 PVC stainless steel reinforced |
| • Distribution Pump Outlet: | 1/2" FPT Sch. 80 PVC stainless steel reinforced |
| • Hydrogen Vent: | 1.5" Sch. 80 PVC pipe |
| • ClO ₂ Vent: | 2" Sch. 80 PVC pipe |
| • Stripper Column Relief Vent | 2" Sch 80 PVC pipe |
| • Electrical: | (1) 220VAC, 1 PH, 30a circuit with disconnect |

Experts in the generation and application of chlorine dioxide

Pureline offers a complete line of chlorine dioxide products, solutions and accessories.



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