Engineering Specification for Guardian Air Cooled Ozone Generators

Project Name: _____

Ozone Output/day _____

Design Criteria UL/ULC, Models P10, PB20, PB30, PB60, PB120, PB240, PB600 g/hr
Guardian Manufacturing Air Cooled Plasma Block® Pulse Density Modulating Corona Discharge UL508A integrated ozone system operating above 20k hertz ~ 3200 volts. High voltage must be totally contained in the reactor cell to prevent flash over. Ozone operates at 10 psi inside the cell and at vacuum upon exit from the system and automatically shuts down if vacuum is lost. Cell can run up to 100 psi.

Programmable Logic/PID/Manual Control Option:
The system may be PLC, PID or manually controlled. Functions can include configuration screen with password protected operator interface. All pumps, automatic valves, backflow devices, ambient ozone sensors, dissolved ozone monitors and ORP sensors are set up for interlock control via open/closed contact or analog/digital input signal 0 to 10 volt or 0 to 20 mA.

Startup & Shutdown:
The system shall be capable of either a soft shutdown or hard shutdown.

- Soft shutdown occurs from interface with pumps or valves, loss of pressure or vacuum and high ambient ozone alarm. System automatically restarts.
- Hard shutdown occurs from bad oxygen, tripped breakers or water entering the ozone system. The unit will not restart without human intervention.

Oxygen Supply Gas:
Guardian Plasma Block® systems require oxygen feed gas at 85% to 95% at -60°F dew point. Oxygen rates start at 2 LPM and run has high as 150 LPM depending on specific application. Guardian models OC4 through OC75 supply 1 to 75 LPM and fully controlled by the ozone enclosure smart relay or PLC. Onboard Oxygen Monitoring Protection (OMP) shuts down the unit in the event of loss of pressure, concentration or flow.

Remote Monitoring Option:
The system shall have full Ethernet capabilities with monitoring of all devices including alarms, alarm history. Current system operating parameters must be accessible through wireless communications to digital pager or cell phone and have options for internet monitoring.

Electrical Power Requirement:
NEMA12, 4 & 4X UL508A Enclosure, 120/240 volt, single phase, 5 to 40 amp service

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