

OREC™ G Series Ozonators: Description



G Series Ozone Generator

The OREC™ G Series Oxygen / Dry Air (feed gas) Ozonators are designed to interface with a wide range of industrial applications. The ultra-compact, fiberglass reinforced cabinet makes the G Series suitable for demanding environments... aquaculture and agriculture, cooling tower and wastewater treatment, as well as many other commercial applications.

The G Series Ozonators incorporate an air-cooled titanium and ceramic reactor cell design with a high frequency variable controlled power supply. The G Type Ozone Generators offer a full range of output performance, from 3 g/hr to more than 60 g/hr... all in the same lightweight, sturdy, fiberglass reinforced, wall mountable enclosure.

The G Series Ozonators are among the most energy efficient in the industry! Their high concentration ozone output and low power consumption coupled with variable control; feed gas control; reactor back pressure gauge; power supply feed back output; and LED ozone output indicator.

G Series Ozonators can be controlled manually or remotely using a 0–10 VDC or 4–20 μ A signal from an ozone analyzer, ozone process controller, ORP (oxidation reduction potential) controller or other control signal allows tremendous flexibility.

The OREC™ G Series Ozonators feature an integrated automatic cooling fan which keeps moisture out, even in cool or humid outdoor applications. The modular design combines the power supply with a titanium and ceramic reactor cell for improved field serviceability, providing years of trouble-free operation.

OREC™ G Series Ozonators: Technology

All OREC™ G Series Ozonators feature corona discharge ozone generators that produce comparatively high concentrations of ozone for the duration of a long, virtually service-free life.

The titanium-ceramic, *ultra-narrow-gap*, corona discharge reactor cell is energized by a solid state power supply, providing proportional control of ozone output. The *ultra-narrow-gap* corona discharge reactor cell equates to energy efficient and responsive ozone generation.

OREC™ has combined *ultra-narrow-gap* technology with engineered, high frequency, pulse modulated power supplies and instantaneous amplitude modulated variable control to maximize ozone output efficiency and provide precise ozone concentrations.



The G Series Ozonators are constructed of ozone resistant components such as titanium electrodes, ceramic dielectrics, 316 stainless steel fittings, and Teflon® tubing to ensure reliability and maintenance-free performance. The Ozonators are air-cooled, employing large aluminum heat sinks and high volume fans for maximum heat transfer and optimal cooling, an important factor in improving ozone output.

Each OREC™ Ozonator is tested in a full range of operational conditions for ozone output and performance. OREC™ is unique, on a global basis, in having received *Direct Traceability* from the National Institute of Standards and Technology (NIST) and is ISO/IEC 17025 (A2LA) certified for ozone calibration!

OREC™ G Series Ozonators: Features

- TableTop Design;
- Front Panel mounted controls;
- Reinforced fiberglass enclosure;
- Precision flow meter;
- Stainless steel hardware;
- Air cooled ceramic and titanium dual action reactor cell;
- Over temperature safety protection;
- Integrated PSA air dryer technology (Model G11 only);
- Feed gas flow control.

OREC™ G Series Ozonators: Options

- Oxygen Concentrator;
- Oxygen Generator (feed gas supply);
- Air Dryer;
- PID Controller;
- Ozone Monitor;
- Ozone Gas Detector.

OREC™ G Series Ozonators: Controls

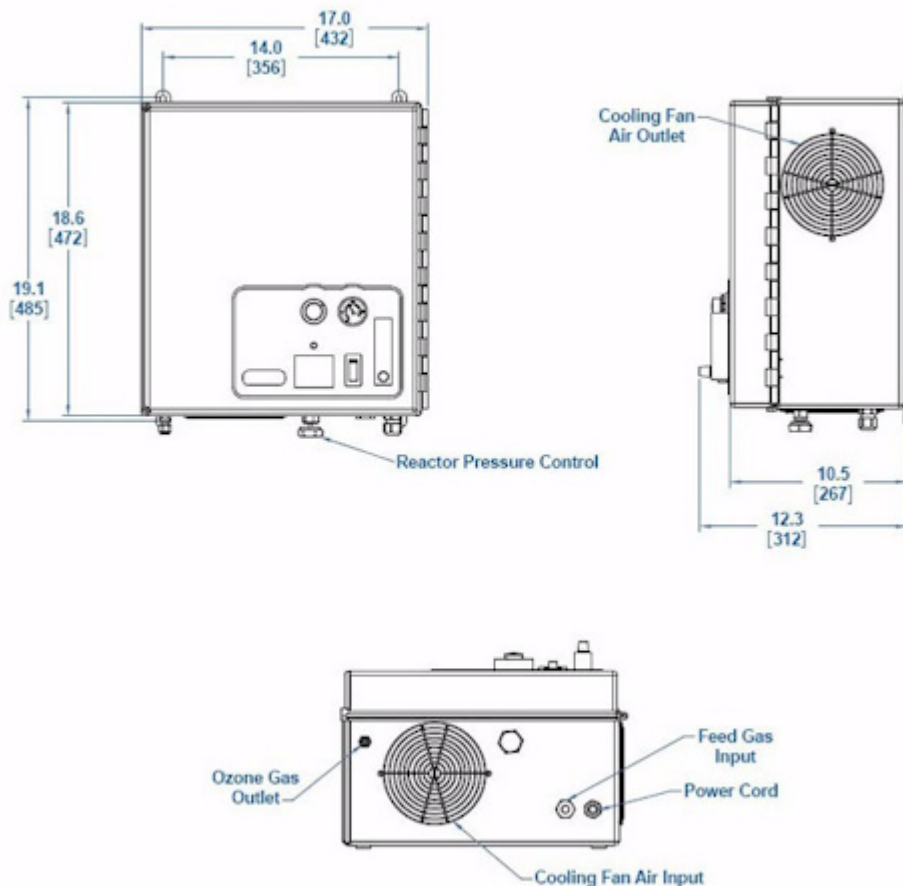
- 4 – 20 µA or 0 – 10 VDC input;
- Variable output control: 0 – 100%;
- On/Off illuminated circuit breaker;
- Remote on/off control;
- Feed gas flow control: 0 – 30 SCFH;
- Power feed back reference meter 0 – 15 VDC;
- Reactor pressure control / gauge 0 – 15 PSI;
- LED ozone indicator.

OREC™ G Series Ozonators: Specifications

Model:	G11	G21	G22	G23	G24
Model Number Voltage (AC):	G11001 115 VAC	G21001 115 VAC	G22001 115 VAC	G23001 115 VAC	
Model Number Voltage (AC):	G11002 230 VAC	G21002 230 VAC	G22001 230 VAC	G23002 230 VAC	G24002 230 VAC
Ozone Production: (10 SCFH O ₂ feed gas supply)	13 g/hr 0.7 lb/day	19 g/hr 1.0 lb/day			
Ozone Production: (20 SCFH O ₂ feed gas supply)	16 g/hr 0.8 lb/day	24 g/hr 1.3 lb/day	30 g/hr 1.6 lb/day	45 g/hr 2.4 lb/day	50 g/hr 2.6 lb/day
Ozone Production: (30 SCFH O ₂ feed gas supply)			40 g/hr 2.1 lb/day	52 g/hr 2.7 lb/day	
Ozone Production: (40 SCFH O ₂ feed gas supply)					52 g/hr 2.7 lb/day
Ozone Production: (10 SCFH dry air feed gas supply)	3.5 g/hr 0.2 lb/day	4.3 g/hr 0.2 lb/day			
Ozone Production: (15 SCFH dry air feed gas supply)				8.9 g/hr 0.4 lb/day	
Ozone Production: (20 SCFH dry air feed gas supply)	6.0 g/hr 0.3 lb/day	8.3 g/hr 0.4 lb/day	9.1 g/hr 0.5 lb/day	18.0 g/hr 1.0 lb/day	15.0 g/hr 0.8 lb/day
Ozone Production: (40 SCFH dry air feed gas supply)					24.0 g/hr 1.3 lb/day
Oxygen Concentration Oxygen (Max):	5 % by weight	7 % by weight	8 % by weight		
Oxygen Concentration Dry Air:	1 – 2 % by weight				
Maximum Reactor Pressure:	12 PSI (0.8 bar)				
Feed Gas Flow Range: SCFH liters per minute	7 – 10 SCFH 3.3 – 4.7		7 – 20 3.3 – 9.4	7 – 30 3.3 – 14	7 – 40 3.3 – 19
Variable Control:	0 – 100%				
Power Consumption:	230 Watts	270 Watts	435 Watts	525 Watts	625 Watts
Air Cooling:	240 CFM (6796 lpm)				
Power Supply Fuse:	8 Ampere				
On/Off Circuit Breaker:	15 Ampere				
Compressed Air Inlet Connector:	0.25 inch (6.35 mm) NPT female pipe thread				
Ozone Outlet Connector:	0.25 inch (6.35 mm) compression fitting				
Power Requirement:	115/230 VAC 50/60 Hz 1 Phase 15 Amp				230 VAC 50/60 Hz 1 Phase 15 Amp
Dimensions (H x W x D):	18.6 x 17 x 12.3 in. (472 x 432 x 312 mm)				
Weight:	44 lbs. (20 kg)	49 lbs. (22 kg)	51 lbs. (23 kg)	53 lbs. (24 kg)	55 lbs. (25 kg)

G SERIES OZONE GENERATORS

Model: GII-24



Dimensions: inches [mm]

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NIST Direct Traceability & ISO/IEC 17025 Accredited Calibration Laboratory

National Institute of Standards & Technology
Reports of Analysis

Direct (Primary) Traceability

[NIST Report 839.03-03-155](#)
[NIST Report 839.03-05-168](#)
[NIST Report 839.03-08-004](#)
[NIST Report 839.03-09-142](#)



American Association for Laboratory Accreditation

[Instrument Calibration Certificate 1424.01](#)
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Index Terms: OREC™, Ozone Research Equipment Company, ozone generation, ozonator, ozone generator, ozone, ozonize, ozonate, generator, OREC, osmonics, ozone technology, dissolved gas, corona discharge, uv, ultra violet, O3, ASTM D518, ASTM D1149, ASTM D1171, ASTM D3395, ASTM D4575, ozone research, rubber cracking, ozone resistance, rubber, crack growth, weathering, rubber deterioration, surface cracking, ozone cracking, ozone measurement, rubber test, ultraviolet, rubber degradation, ozone degradation.

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