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Ozone

The discovery and benefits of ozone dates back well over 100 years. Recent developments in technology have allowed a new generation of applications and products, using ozone, to emerge.

Ozonation Process:

Oxygen molecules (O2) are split when passed through a gap formed by a high voltage electrode, dielectric and ground electrode. High voltage, at high frequency, is then applied to the electrodes. The plasma formed in the gap is known as a Corona Discharge, and it is here that some of the oxygen molecules split and recombine to form ozone:

$$O_2 + \text{energy} \rightarrow 2\,O\bullet$$

$$O\bullet + O_2 \rightarrow O_3$$

Ozone is an unstable compound, and may react in a simple oxidation where one molecule splits off or in a reaction called Criegee mechanism where all three oxygen molecules are used. In most inorganic reactions only one atom of the ozone molecule enters into the oxidation; the other two are released as molecular oxygen. Ozone reacts readily with unsaturated organic compounds, adding all three oxygen atoms at the double or triple bond. In addition, ozone can act as a powerful disinfectant, rupturing the cell wall to inactivate bacteria, fungi, viruses, etc.

SGA Series: Ozone/Oxygen Systems:

The SGA Series Ozone/Oxygen Systems are the most powerful and compact ozone systems in their class. Each combines a high concentration, air-cooled ozone generator with an onboard oxygen concentrator in an attractive, compact, wall-mountable stainless steel housing.

The powerful SGA Series is easy to operate with a convenient, intuitive control panel. To easily manage the ozone generating process, it offers: 0-100% variable power control, feed gas control, inlet air pressure and reactor back-pressure gauges, power supply feed back reference meter, and LED ozone production indicator.

All SGA Series Ozone Generators can be controlled by a 0-10vdc signal with the optional Automatic Proportional Control (APC) installed. This option is ideal when automatic and continuous control of ozone output is required for a specific process or application.

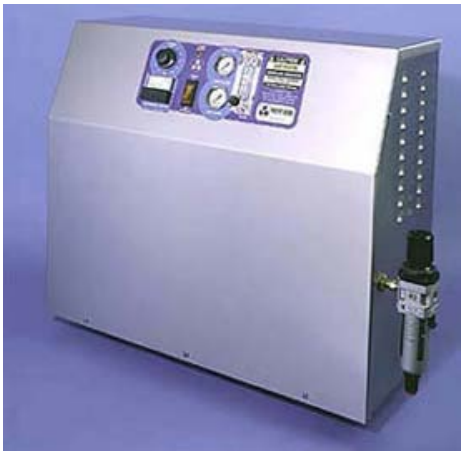
A highly efficient, reliable ceramic/titanium reactor cell uses an exclusive Floating Plate Technology™. It is powered by advanced, high-frequency pulse modulated variable control power supply. Responsive, accurate ozone output control is assured by instantaneous amplitude modulation and proven stability of the Floating Plate Technology™ reactor cell design.

The SGA Series Ozone Generators are engineered to meet the ozone process requirements found in the most demanding applications, yet with an efficient design that assures minimal maintenance and years of trouble-free operation.

Model	SGA11	SGA21	SGA22	SGA23	SGA24	SGA43	SGA44	SGA53	SGA63	SGA64
Ozone production g/hr (lbs/day)	12 (0.6)	18 (1.0)	30 (1.6)	45 (2.4)	60 (3.2)	90 (4.8)	120 (6.4)	135 (7.2)	180 (9.6)	240 (12.8)
Oxygen feed gas flow	10	10	20	30	40	60	80	90	120	160
Ozone Concentration % wt	3%-7%	4%-8%	4%-8%	3%-8%	3%-8%	3%-9%	3%-8%	3%9%	3%-8%	3%-8%
Max reactor pressure psi	15	15	15	15	15	15	15	15	15	15
Compressed air req scfm	3	3	6	9	12	18	24	27	36	48
Compressed air pressure psi	20	20	30	30	30	40	40	40	40	40
Feed oxygen flow scfh	0-15	0-15	0-20	0-30	0-40	0-80	0-80	0-90	0-120	0-160
Air cooling fan scfm	240	240	240	240	240	480	480	720	960	960
Compressed air inlet (fnpt)	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"
Ozone outlet (tube)	1/4	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	1/2"
Dimensions H x W x D inches	22x18x11	22x18x11	22x18x11	22x26x11	22x26x11	31x34x29	31x34x29	55x34x29	55x34x29	55x34x29
Weight lbs	70	75	85	110	115	220	230	330	375	460
Power requirement Volt, Hz	115V	60Hz	or	230V	50/60Hz		230V	50/60Hz		

SGC Series: Ozone/Oxygen/Compressor Systems

The SGC Series adds an extra feature to the SGA Series by combining a built-in, oil-less air compressor in the cabinet. Just plug it in to produce up to 25 g/hr of high concentration ozone. The SGC Series is the easiest to operate and the most complete ozone generation unit you will ever use.

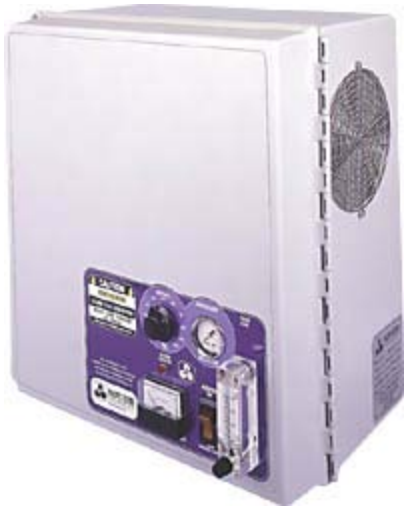


SGC Series

Model	SGC10	SGC11	SGC21	SGC22
ozone production g/hr (lbs/day)	7.5 (0.4)	10 (0.5)	16 (0.8)	25 (1.3)
Air cooling fan scfm	240	240	240	240
Ozone Outlet (tube)	1/4"	1/4"	1/4"	1/4"
Dimensions HxWxD inches	22x18x11	22x26x11	22x26x11	22x26x11
Weight lbs	80	85	90	95
Power requirement Volt, Hz	115V	60Hz	or 230V	50/60Hz

GA10 Ozone/PSA Air Dryer

Rugged, lightweight and compact, the GA10 Ozone/Dry Air Generator is an exceptional value. Engineered to connect to a local air source, this economically priced system includes a 5 micron filter regulator with an auto drain and coalescing filter as standard equipment.



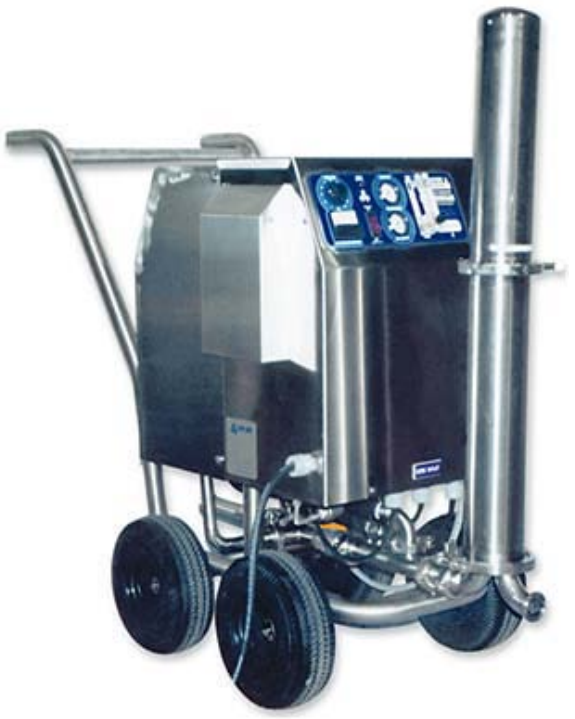
GA10 Ozone/PSA Air Dryer

Ozone production @10 scfh	1.10 g/hr
Ozone production @20 scfh	2.67 g/hr
Ozone production @30 scfh	4.36 g/hr
Compressed air pressure	80-125 psi
Maximum reactor pressure	6 psi
Compressed air inlet (fnpt)	1/4”
Ozone outlet (tube)	1/4”
Power requirement	115V 60HZ or 230V 50/60HZ
Dimensions	14.5” x 13” x 8.5”
Weight	22lbs

• Specifications subject to change without notice.

M18 PORTABLE OZONE SYSTEM

Portable ozonated water production for tank sanitization, surface disinfection and other applications has never been easier or more cost effective.



The M18 Portable Ozone System is a rugged, all stainless steel package that uses a Pacific Ozone Technology 18 g/hr (1 lbs/day) high concentration ozone/oxygen system with onboard pump and injector for efficient ozone mass transfer. Simply connect plant water in and get high concentration ozonated water out with no loss of flow or pressure.

The Standard M18 System Includes:

- All stainless steel construction
- Water resistant enclosure
- Onboard air compressor
- Onboard oxygen concentrator
- Onboard booster pump
- Onboard side stream injector
- Automatic flow switch

M18
PORTABLE OZONE SYSTEM

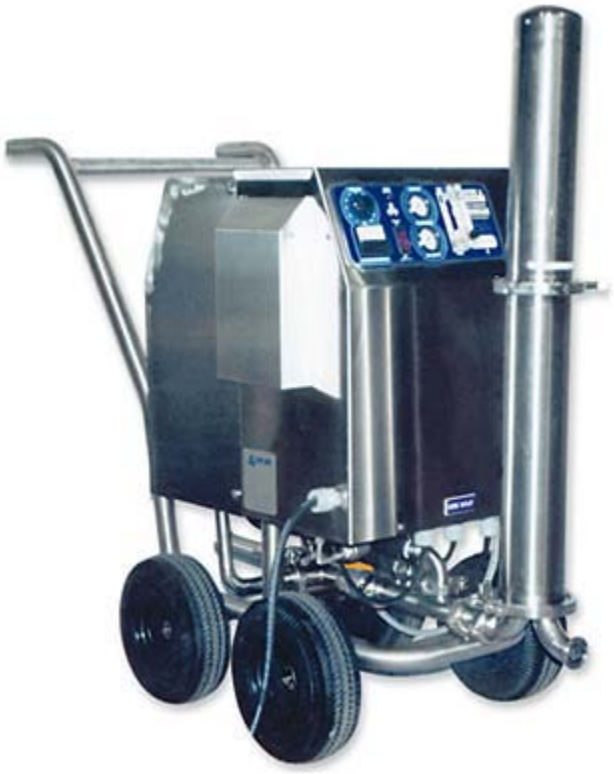
FEATURES:

0 - 100 gpm water flow
Operating Pressure to 85 psi
Air-Cooled Ceramic and Titanium Reactor Cell
Patented Floating Plate Technology™
5-Micro Filter/Regulator with Auto Drain
50' power connection cable
Optional Off-Gas Decomposer

CONTROLS:

Variable Output Control 0-100%
Automatic Flow Switch
Automatic Door Switch
Over Temperature Safety Switch
Feed Gas Flow Control
LED Visual Ozone Indicator

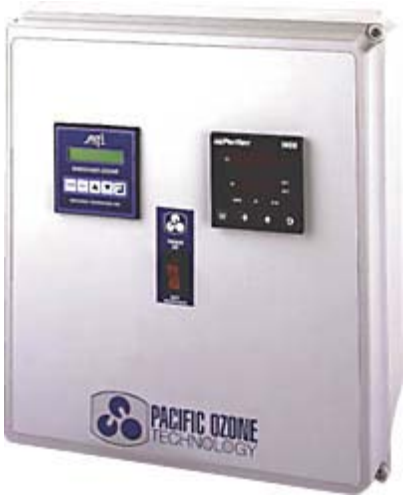
Product Description	Portable Automatic Ozone Contact System
Part Number	R-CAM181 115V model
Specifications:	R-CAM182 230V model
Ozone Production 10scfh	
Ozone Concentration	18 g/hr - 1.0 lbs./day
Water Flow Range	+90% @10 scfh
Maxium Water Pressure	5 - 100 gpm
Water Inlet Connection	85 psi
Water Outlet Connection	1.5" Sanitary Fitting
Feed Gas Flow Range	1.5" Sanitary Fitting
Variable Control	0-100%
Power Consumption	1750 watts
Power Supply Fuse	8 ampere
Air Cooling	240 scfm
Power Cord	50'
Power Requirement	115V or 230V 50/60Hz 1 phase
Height	39 inches
Width	25 inches
Depth	37 inches
Weight	210 lbs



m18
PORTABLE OZONE SYSTEM

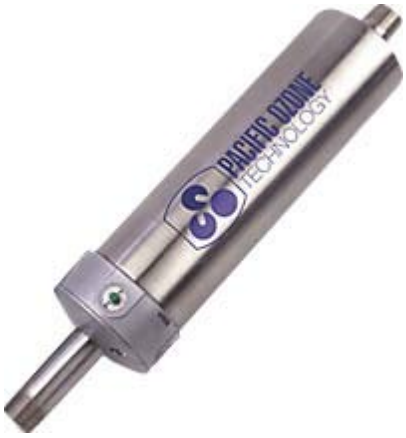
Options:
An optional portable ozone gas detector is available for ozone off-gas monitoring and detection along with optional ozone degas chamber and catalytic ozone decomposer to minimize ozone off-gas from the water process.

Dissolved Ozone Controller



The C250 Dissolved Ozone Process Controller provides continuous and accurate control of dissolved ozone levels in water. The dissolved ozone analyzer uses a programmable electrochemical monitor, with a direct sensing ozone probe. This provides real time ozone concentration output to a microprocessor-based, single loop, fully-programmable PID controller.

The PID controller sends a proportional signal to the ozone generator, controlling the ozone gas concentration delivered to the process from the ozone generator. The C250 Controller is housed in a NEMA4 wall-mountable enclosure and includes a 25’ ozone sensor cable and 10’ control cable to the ozone generator.



Ozone Destruct Chamber

The D412 Destruct Chamber is a durable T316 stainless vessel, with a 1” MPT fitting that easily attaches to an ozone contact tank, de-gas separator or other ozone contact systems. This helps convert any unused ozone into oxygen before venting it into the atmosphere.

The D412 uses an Mn02/Cu0 mixture as a catalyst, with a thermostatically controlled heating element to remove water vapor for long lasting ozone decomposition potential.

(Manufactured in the U.S.A. by Pacific Ozone Technology)