PROVIDING THE RIGHT ELECTROLYTIC OZONE CELL FOR YOUR APPLICATION NEEDS

Power by BES

Professional Solutions for Electrolytic Ozone Generation

NOVEL ELECTROLYTIC OZONE TECHNOLOGY

Electrolytic Ozone Generation (EOG) is a novel technology which produces pure ozone from water instead of gaseous air or oxygen. With an electric current supply, within an electrolytic cell ozone is generated electrochemically based on reaction of anodic oxidation of water. The technology has been recognized worldwide as a simple and far more efficient method of producing high concentration ozone without inherent disadvantages associated with conventional processes in small to medium commercial-scale applications.

APPLICATION VALUES

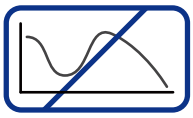
No feed gas preparation

Low-voltage DC

Air quality and flow independent

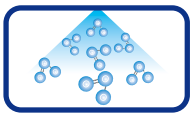
Reduced equipment size and maintenance

Pure ozone generated at high concentrations



No significant fluctuations in output

No Nitric Oxides (NOx) & Nitrous Acid



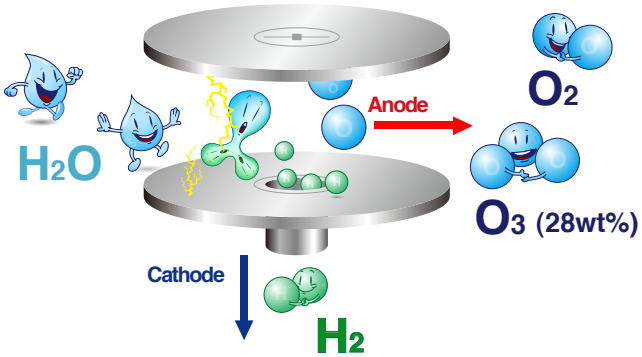
Better mass transfer & treatment efficiency

CHOOSE THE CELL YOU WANT WITH THE BENEFITS YOU NEED

BES Group is the world leading developer and supplier of EOG cells, offering a broad range of cell capacity from 25 to 3000 mg.O_3/h with modular and scalable design for extensions to match various application demands.

HOW IT WORKS

The electrolytic cell splits water into its basic elements and then converts part of the liberated oxygen (O_2) into ozone (O_3).



[+] Anode:

1. $H_2O \xrightarrow{Electrolysis} 1/3O_3 \uparrow + 2H^+ + 2e^-$
2. $H_2O \xrightarrow{Electrolysis} 1/2O_2 \uparrow + 2H^+ + 2e^-$

[-] Cathode:

1. $2H^+ + 2e^- \longrightarrow H_2$

PRODUCT HIGHLIGHTS

- PEM [#1] technology
- No ionic contamination
- Instant start-up performance
- Extreme high concentration output
- Solid and durable long working lifespan
- Easily integratabtle maintaining system integrity
- User friendly with cell controls and performance monitoring
- Modular and scalable intelligent design that is also extremely compact

#1: Proton Exchange Membrane (PEM) Electrolysis is the electrolysis of water in a cell equipped with a solid polymer electrolyte (SPE) that is responsible for the conduction of protons, separation of products gases, and electrical insulation of the electrodes. The PEM electrolyzer has been proven to overcome the issues of partial load, low current density, and low pressure operation currently plaguing the conventional liquid alkaline electrolyzer.

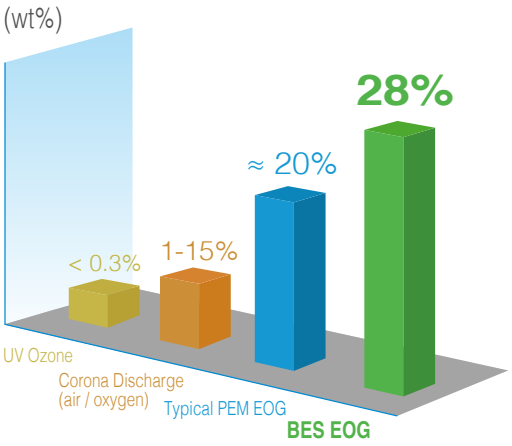
KEY ADVANTAGES

We understand that the cell performance and durability are fundamental requirements for applications. Our cells provide industry leading EOG quality and reliability to keep your applications productive and profitable.

HIGHEST CONCENTRATION & PURITY

The production of ozone in EOG is determined by the current density acting on the cell and the properties of the electrocatalyst used in it.

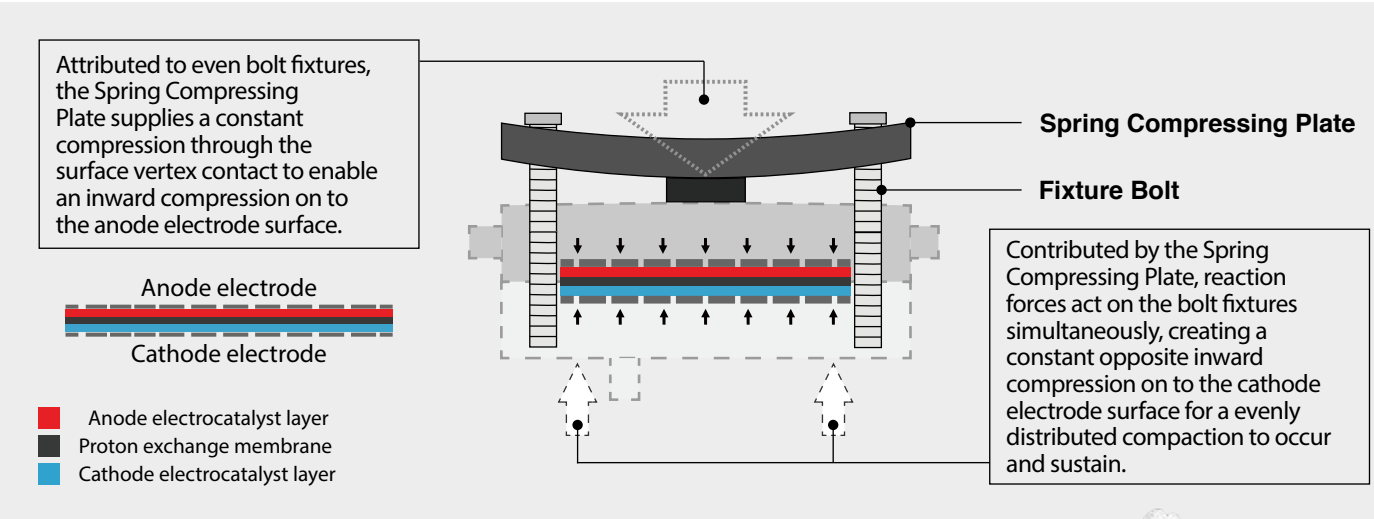
A high-purity, noble metal catalyst is used in the BES EOG cells that not only enhances the tolerance to high current density which in turn promotes concentration, but also assures no harmful impurities are present in the output.

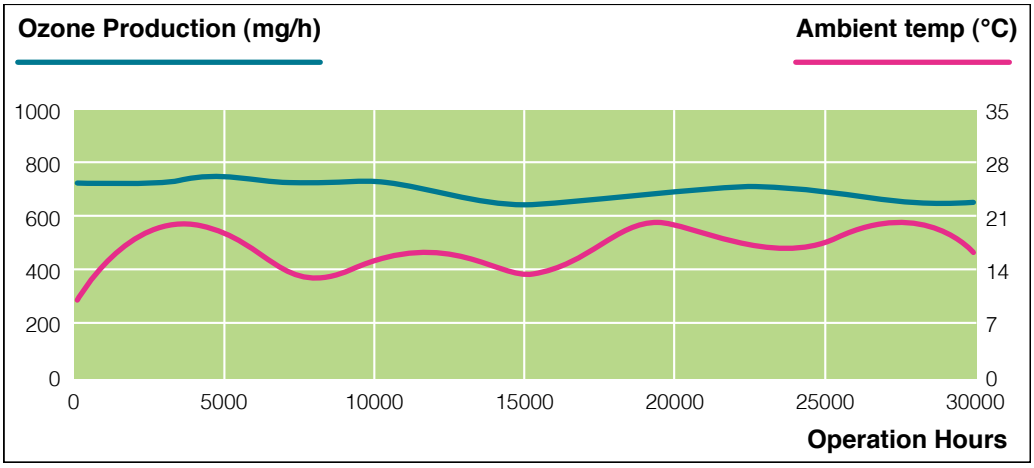


GREATEST WORKING RELIABILITY & DURABLE LIFE

The durability of an EOG cell is greatly associated with the degree of compaction of the electrocatalyst within the cell engineering structure.

A patented, innovative and discreet anodic spring compressing fixture structure is used in the BES EOG cells to assure a constant compaction degree of the electrocatalyst laying and its attachment on the PEM, which therefore secures our steady performance and solid long service life.





Measured conditions:
- 1 atm;
- Natural room temperature;
- Natural water temperature;
- Water quality: ≤ 1μs/cm
- Working pressure: 0.08 Mpa

Figure. EA700 service life with performance profile at natural room temperatures

※ Comprehensive data for other cells is available from BES Group upon request.

CHOOSE THE RIGHT FEATURES FOR YOUR APPLICATION

EOG EB / EA Series

Ozone Production

25 - 3000 mg/h

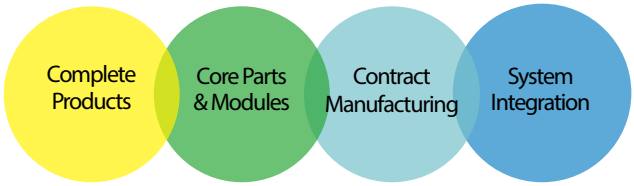
(per cell)

Series	EB Series				EA Series[#1]			
Model No.	**EB25**	**EB60**	**EB100**	**EB200**	**EA200**	**EA700**	**EA1500**	**EA3000**
Production (mg.O_3/h)[#2, #3]	25	60	100	200	200	700	1500	3000
Concentration[#3]	350 g/Nm^3				450 g/Nm^3			
Purity by Weight[#3]	22 wt%				28 wt%			
Output Pressure[#3]	0.05 Mpa				0.15 Mpa			
Lifecycle[#4]	15,000 hr				30,000 hr			
Power Supply	DC 2.8 - 5V							
Rated Power	2.5W	10W	10W	20W	20W	60W	115W	335W
Water Quality	≤ 50 µs/cm				≤ 1 µs/cm			
Frame Materials	PVDF				Titanium, PVDF			
Dimensions (mm)	Ø32 x H12		Ø37 x H30	Ø40 x H30	Ø44 x H23	Ø59 x H33	Ø75 x H39	Ø115 x H55

#1 Process control module provided on EA series is optional and available upon request.
#2 Ozone output may be configured as necessary. Please contact BES Group for more information.
#3 Maximum Ozone Production: values quoted are as determined at standard conditions. Contact BES Group for more information.
#4 Recommended lifecycle: lifetimes quoted are as determined for the periods during which the production performance of cell remains 70% above. Contact BES Group for more information.

About Us

Since 1988, BES Group has been the global leader in electrolytic technology. Converting water to ultra pure ozone gas and hydrogen gas is our core technology. Series products include Food Safety & Sanitation, Healthy Environment, Clean Water, and Sanitation & Wellness.
All products and components are tested for high performance, safety, and reliability with required certifications from government agencies and leading 3rd party labs.



BIOSURE North America, LLC.
2020 Babcock Rd., Ste. 25
San Antonio, Texas - USA
www.besgroups.com

Biotek Environmental Science Ltd.
5F, 98 Xingde Rd, Sanchung Dist,
New Taipei, 24158 Taiwan
www.besgroups.com

Sales Finland
SauvO3 Ltd.
Timperintie 5
21570 Sauvo, Finland
www.sauvo3.fi

Manufacturing
4F, 1 Wuzhishan Rd, ETDZ
Yantai, Shandong 264006 China
www.besgroup.com.cn

ISO 9001 Certified

Technologies applied are protected by one or more of the following patents: US 8,308,914 B2, US 9,757,697 B2, US 9,248,208 B2

Member of EUO3TA.org