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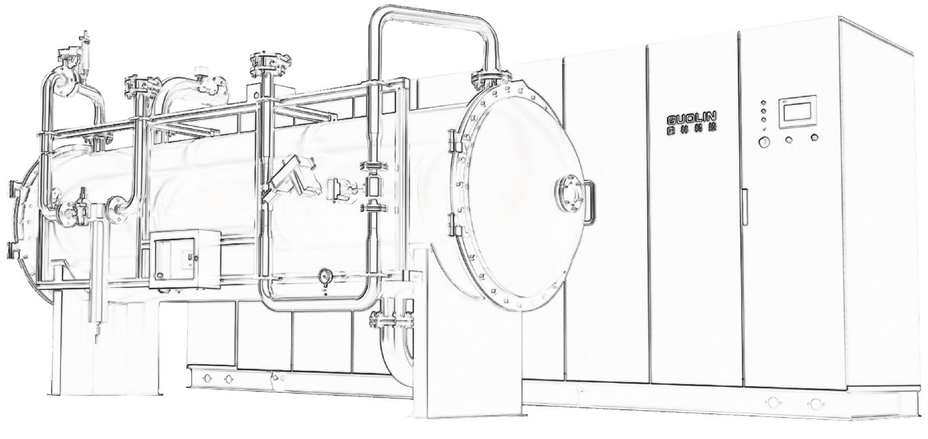

GLOBAL OZONE SYSTEM SUPPLIER

全球臭氧系统供应商

GUOLIN PRODUCT MANUAL

GLOBAL **OZONE SYSTEM**
SUPPLIER
全球臭氧系统供应商

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COMPANY PROFILE

Qingdao Guolin Technology Group Co., Ltd. (hereinafter referred to as Guolin Technology) was established in 1994, which is a high-tech enterprise focusing on ozone research, manufacture and trade. As a professional organization, Guolin invests itself in ozone generation mechanism research, ozone equipment design and manufacture, ozone application engineering design, installation, commissioning, operation and maintenance. Guolin has an ozone equipment production base covering an area of over 86,666.00 m2 and is a leading enterprise in the ozone industry of China. Guolin Technology (Stock code: 300786.SZ) was officially listed on the GEM of Shenzhen Stock Exchange on July 23, 2019, becoming the first listed enterprise of ozone industry.

GuoLin Technology adheres to the business philosophy of “Science and Technology Innovation Make the World Harmony.” persisting in independent research and development of core technologies to achieve domestic production of core components.

After more than thirty years of effort, it has successively overcome the manufacturing technologies of tube-type ozone generators, plate-type ozone generators, and electrolytic water ozone generators.

GuoLin Technology has become the first Chinese enterprise to break through the manufacturing technology of ozone generators in 1kg/h, 10kg/h, 100kg/h and125kg/h. Its products have been widely applied in various fields, including municipal water treatment, wastewater treatment, flue gas denitrification, chemical oxidation, petroleum, semiconductor, medical, agriculture, and other fields.

The company's R & D center is granted the honor of the "Provincial enterprise Technology Center" and "Shandong Ozone Engineering Technology Research Center". Also, it has presided over the formulation of the national standard "Technical requirements for ozone generator for water and waste treatment" (GB/T37894-2019), presided over the revision of China's urban construction industry standard "Ozone generator for water and waste water treatment" (CJ/T322-2010); It undertook the national "Twelfth Five-Year Major Science and Technology Special Water project" project, the national "Thirteenth Five-Year Key Research and Development Plan" project, and the national "Thirteenth Five-Year Major science and Technology special Water project" project.

Guolin Technology is the first enterprise in ozone industry to be honored with the National Specialized "New Little Giant" title given by the Ministry of Industry and Information Technology. In addition, Guolin is recognized as environmental protection equipment manufacture enterprise with standard conditions of air pollution treatment , environmental protection equipment manufacture enterprise with standard conditions of sewage treatment , the state encouraged enterprise developed major environmental protection technology and supporting equipment. Guolin Technology is holding over a hundred patents, including invention patents, practical new-type patents, and software copyrights.

Guolin Technology has always committed to the "Develop Ozone Technology and Cast Green Industry ". Currently, it is becoming a global ozone system supplier, and will continue to focus on ozone technology research and application in the future. Guolin Technology always provides professional ozone system solutions for clients in different fields and with different needs.

COMPANY CULTURE

Guolin Mission: Develop ozone technology, create green industry, and devote to improving human living environment.

Guolin Vision: Become a global ozone system supplier, providing users with stable, advanced and practival products.

Guolin Values: Cultivate employees who creates value for society for the goal of a respected enterprise.

Guolin Philosophy: Science and technology innovation make the world harmony.

COMPANY ACTIVITIES

"Large (120kg/h) Ozone Generator Development Project" scientific and technological achievements evaluation meeting

▲ "Ozone Generator for Water Treatment" ozone industry standard review meeting

▲ Guolin became a listed company

Guolin staff of designing department ▲

▲ Guolin participated in the exhibition

Guolin staff of customer service department ▲

▲ Goulin achieved cooperation with customer

Customers visited Guolin production equipment base ▲

▲ Guolin production workshop

COMPANY QUALIFICATION& EQUIPMENT CERTIFICATE

REACH

ISO 45001

ISO14001

ISO 9001 CQC

SGS

CE

COMPANY HISTORY

1994

1994-12-13 Qingdao Guolin Industry Co., Ltd. was founded.

2002

2002-09 Guolin successfully developed the first 3kg/h ozone generator in China and change the situation that China manufacturers cannot produce ozone generator above 2Kg/h capacity in the past 30 years.

2004

2004-11，The single unit of “20kg/h Ozone Generator” was independently developed by Guolin and passed the scientific and technological achievements appraisal of the Ministry of construction.

2008

2008-07，Guolin won the bidding for the ozone system equipment of Kunshan Water Group 3rd Plant, which processes water 200000 tons/day, with the participation of OZONIA and WEDECO, breaking the situation where the municipal water supply industry relies entirely on European brand large-scale ozone generator.

2008-10-24，“50kg/h Large Ozone Generator” developed by Guolin passed the Scientific and Technological Achievements Evaluation of Ministry of Construction. Guolin become the third manufacturer in the world which can produce ozone generator with capacity above 50kg/h.

2009

2009-12，Qingdao Guolin Ozone Equipment Industry Base (Phase I) was started for foundation construction in Qingdao Laixi City Jiangshan Industrial Park.

2010

2010-06，National Industrial standard “Ozone Generator for Water Treatment” CJ/T322-2010 mainly edited by Guolin, has been officially promulgated and implemented.

2011

2011，Guolin undertakes the project of "development and industrialization of large-scale ozone generator equipment" in water project, a major national science and technology project during the 12th Five Year Plan period.

2011-10，Guolin Ozone Equipment Industry Base (Phase I) covering an area of 33000m² was officially put into operation.

2012

2012-03，Guolin Ozone Equipment Industry Base (Phase II), which covers an area of 55000 square meters, officially began construction.

2012-06，The "large (120kg/h) ozone generator" project independently developed by Guolin has passed the evaluation of scientific and technological achievements of the Ministry of Housing and Urban-Rural Development of the People’s Republic of China (MOHURD). It is the first project evaluated in China to exceed 120kg/h of ozone production, filling the domestic gap, achieving international advanced performance indicators, and maintaining the competitive level of the company's products at the forefront of the industry.

2013

2013-10，Guolin "Large (100kg/h) Non-glass Dielectric Ozone Generator" project passed the evaluation of scientific and technological achievements by the Ministry of Housing and Urban Rural Development.

2014

2014-07，National Twelfth Five-year Plan Major Scientific and Technological Water Treatment Special Project for “Non-glass Dielectric Large Ozone Generator Equipment Development and Industrialization” afforded by Guolin passed the Acceptance of Water Management Office of Ministry of Housing and Urban-Rural Development of the People’s Republic of China(MOHURD), which become the first project that passed the acceptance check.

2015

2015-07，Guolin was listed on the New Third Board, stock abbreviation: Guolin Environmental Protection, stock code: 832938.

2016

2016-07，Guolin participated in the project of "NOx and SO2 Collaborative Absorption Technology Based on Pre-ozonation" in the "Demonstration Project of Integrated Control Technology for Coal Pollutants (SO2, NOx, PM)" of the National 13th Five Year Plan.

2017

2017，Guolin participated in the 13th Five Year Plan science and technology major project water special project, evaluation, verification and standardization of key materials and equipment of urban water supply system.

2017，Guolin is responsible for formulating national standard "Technical Requirements for Ozone Generator for Water Treatment".

2018

2018-05，Guolin was selected as a supporting unit for the "Catalogue of Major Environmental Protection Technology and Equipment Encouraged by the State for Development (2017 Edition)".

2019

2019-07，Guolin made its initial public offering of shares and was listed on the Shenzhen Stock Exchange. Stock abbreviation: Guolin Technology, stock code:

2019-08，The "Technical Requirements for Ozone Generators for Water Treatment" national standard GB/T 37894-2019, which was developed by Guolin Company, was released and officially implemented on July 1st, 2020.

2020

2020-07，The National Standard GB/T37894-2019, “Technical Requirements for Ozone Generators for Water Treatment” edited by Guolin was officially implemented.

2020-09，Xinjiang Guolin New Materials Co., Ltd. successfully acquired the 2020-Shihezi City -09 plot. The plot covers an area of approximately 150 acres and will build a new production base for high-quality glyoxylic acid monohydrate products with an annual output of 25000 tons. Construction has started and is expected to be completed and accepted by the end of 2021.

2021

2021-03，The national key research and development project of "NOx and SO2 Collaborative Absorption Technology Based on Pre-ozonation" undertaken by Guolin passed the acceptance inspection.

2021-07，The large-scale ozone generator integrated equipment research and development evaluation verification and standardization acceptance for the 13th Five Year Plan "Water Special Project" of the National Science and Technology Major Project undertook by Guolin was passed.

2021-08，The invention patent was granted to Guolin: A Plate Electrode for an Ozone Generator and Its Preparation Method and Application, which enabled Guolin Company to achieve international advanced levels in three ozone generation technologies: plate, tube, and electrolysis.

2021-10，Guolin participated in the 13th Five Year Science and Technology Innovation Achievement Exhibition and was praised.

2022

2022-08,Both the subsidiary Xinjiang Guolin's basic manufacturing process for preparing glyoxylic acid monohydrate based on ozone method and the Guolin Semiconductor 's semiconductor process specific ultra pure high concentration ozone device were selected for the national "Industrial Basic Innovation and Development Catalog (2021 Edition)"

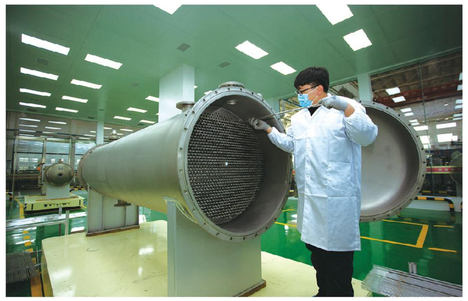
2022-10,Guolin was awarded the honorary title of National Intellectual Property Advantage Enterprise.

PRODUCTION CAPACITY

The company focuses on the manufacturing ozone system equipment and devotes itself to becoming a professional supplier of ozone system. It has a professional production base covering an field of more than 87000 square meters and a building area of more than 90000 square meters. This base includes a production workshop and a technical performance testing workshop for manufacturing a whole set of ozone system equipment. In the site, the key core components of ozone system can be independently produced.

Through the infor matization of manufacturing process, the company promotes the reform of the production workflow and improves the production efficiency. This let the company being able to operate a new modern production base with first-class technology and efficient devices.

PRODUCTION WORKSHOP



Ozone Assembly Workshop

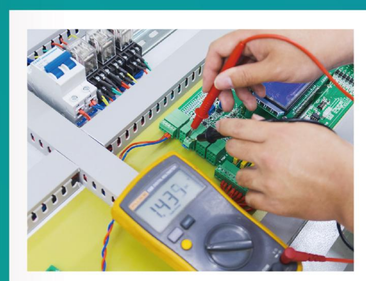
The total ozone assembly workshop occupies an area of nearly 15000 square meters. It is equipped with non-glass medium production line, dust-free generator assembly room, power cabinet assembly line, ozone generator performance test platform and automatic tube-penetrating production line. The workship is a comprehensive workshop assembling large, medium and small ozone generator and making production of ozone system supporting products. The assembly workshop team adheres to the "craftsman spirit" of striving for perfection to perform professional and refined manufacturing management in terms of providing users with high-end products.

Pressure Vessel Workshop

Pressure vessel workshop building area is nearly 19000 square meters certifies as A2-level pressure vessel manufacturing and design. The lisence is issued by Shandong province technical supervision bureau. The workshop is installed with X-RAY flaw detector, ultrasonic flaw detector, spectrum analyzer, large CNC laser plate cutting equipment, automatic laser profile blanking machine, heavy three-roll bending machine, four-roll bending machine, edge submerged arc automatic welding device, tube sheet automatic welding machine, high-speed digital drilling machine, welding robots, plasma welding device, large vertical lathe and etc. The workshop constantly improve equipment intelligent level and optimize resources configuration in order to provide users with high quality pressure vessel products and solutions.

Transformer Workshop

The transformer workshop covers an area of nearly 10,000 square meters, which is in line with the advanced level of international brand. It independently designs, manufactures and tests various types of transformers, and has the core technology of special transformer and reactor for ozone generator. The production equipment, such as automatic longitudinal and transverse shear production line of silicon steel sheet, automatic winding machine, multi-function test platform and so on. The workshop is quality-oriented and innovation drived. The workshop provides users with products with superior performance and reliable quality.



Power Electronics Workshop

This workshop mainly produces rectifying uinits, inverter units and circuit board control units. With a construction area of 4500 square meters, the Workshop is equipped with thousands clean-level purification room and circuit board welding production line. It mainly solves the control of integrated systems such as ozone generator and oxygen generator.

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CORE TECHNOLOGY

Ozone technology involved modern physics, materials, electronics, precision mechanicals, automation controls, information, Applied Chemistry. It is a comprehensive technical knowledge accorss multi-disciplinary. In long-term, the company has been committed to the research and development of ozone and ozone equipment manufacturing technology. In 1996, enterprise established the R & D center of ozone technology R & D. The center is constructed by ozone base Research Office, Power Electronic Research Office, automation control laboratory, mechanical structure Research Office, ozone system research office, composition of ozone Application Laboratory and standardization committe.

By applying the reasonable R & D workfolow and management system, it successfuly promote the technical innovation in R & D team and made a lot outstanding breakthroughs. These breaking results inculde the DTA non-glass discharge body technology, high-power medium frequency inverter, resonant power supply design technology, high-power medium frequency inverter control technology, online detecting and monitoring technology. These core technologies give the advance in producing Guolin's ozone equipment. In additon, the results formed hundred patents and multiple domestic leading technology, which greatly enhances the company's ability of competitiveness making company always stay in the leading position of fierce competitive market.

The industrial standard of "ozone generator for water treatment" completed by the company's R & D team. As the main drafters was officially promulgated and implemented by the Ministry of Housing and Urban-Rural Development in 2010. In 2016, the company took the lead in drafting the national standard "technical requirements for ozone generator for water treatment". In 2017, the company has undertaken the special subject of "evaluation, verification and standardization of research and development of large-scale ozone generator integrated equipment" in "evaluation and verification and standardization of key materials and equipment of urban water supply system" in the "major special project of water pollution control and treatment science and technology" of the national "13th Five-Year Plan outline", which was completed and accepted in July 2021.

01 Ozone Core Technology

Ozone application technology

- Ozone application technology of drinking water
- Municipal sewage ozone application technology
- Industrial wastewater ozone application technology
- Flue gas denitration ozone application technology

Core technologies of ozone system equipment integration, online detection and remote diagnosis control

Development technology of ozone generator series products

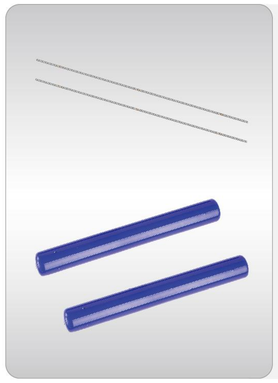
- Ozone chamber technology
- Ozone special medium and high frequency power supply technology
- Ozone generator control technology

Development technology of ozone system supporting products

- Gas source processing system technology
- Ozone dosing system technology
- Exhaust gas treatment system technology

Core key device technology of ozone generator

- Dielectric Obstruction Discharge Technology
- Capacitive Load High Power Dry Type Transformer Technology
- Capacitive Load High Power Inverter Resonant Power Supply Technology
- Key Parts for Generation Tank Safe Operation Protection



Dielectric Obstruction Discharge Technology

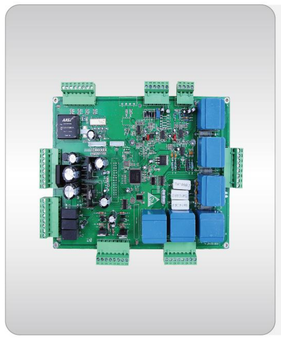
Guolin Technology DTA non-glass dielectric tube integrates high-voltage electrodes and insulation media, with the features of low loss, high thermal conductivity, and high dielectric constant. It has high mechanical strength and thermal shock strength, and is easy to install and maintain. The DTA non-glass dielectric tube independently developed by Guolin Technology has obtained 2 related patents.

Guolin Technology glass dielectric tube uses 3.3 high borosilicate glass as the insulation medium, which has first-class water resistance, good chemical stability, and thermal stability. The glass dielectric tube processing and forming process is mature, with high mechanical accuracy. The discharge gap of the integrated high-voltage electrode glass dielectric tube is uniform and precise. The glass dielectric tube adopts a special surface treatment process, which has a self-cleaning effect, improves the operating efficiency of the ozone generator, and prolongs the equipment maintenance cycle.Guolin Technology has independently developed glass dielectric tube and obtained 4 related patents.

Capacitive Load High Power Dry Type Transformer Technology

The capacitive load transformer is a key device in the power supply system of the ozone generator. Based on the characteristics of the capacitive load in the generator tank, the leakage inductance parameters of the high-frequency transformer are designed, and the winding adopts a special leakage inductance control process to achieve impedance matching between the power supply and the generator tank load.

The high-power transformer adopts a new winding structure, low loss silicon steel sheets, and stepped iron core joints, improving the stability and heat dissipation performance of the transformer, with a capacity of 12500KVA. The ozone dedicated transformer adopts dry type transformer manufacturing technology, which has no fire, explosion, pollution, etc. compared to oil type transformers, and has high reliability and maintenance free operation.



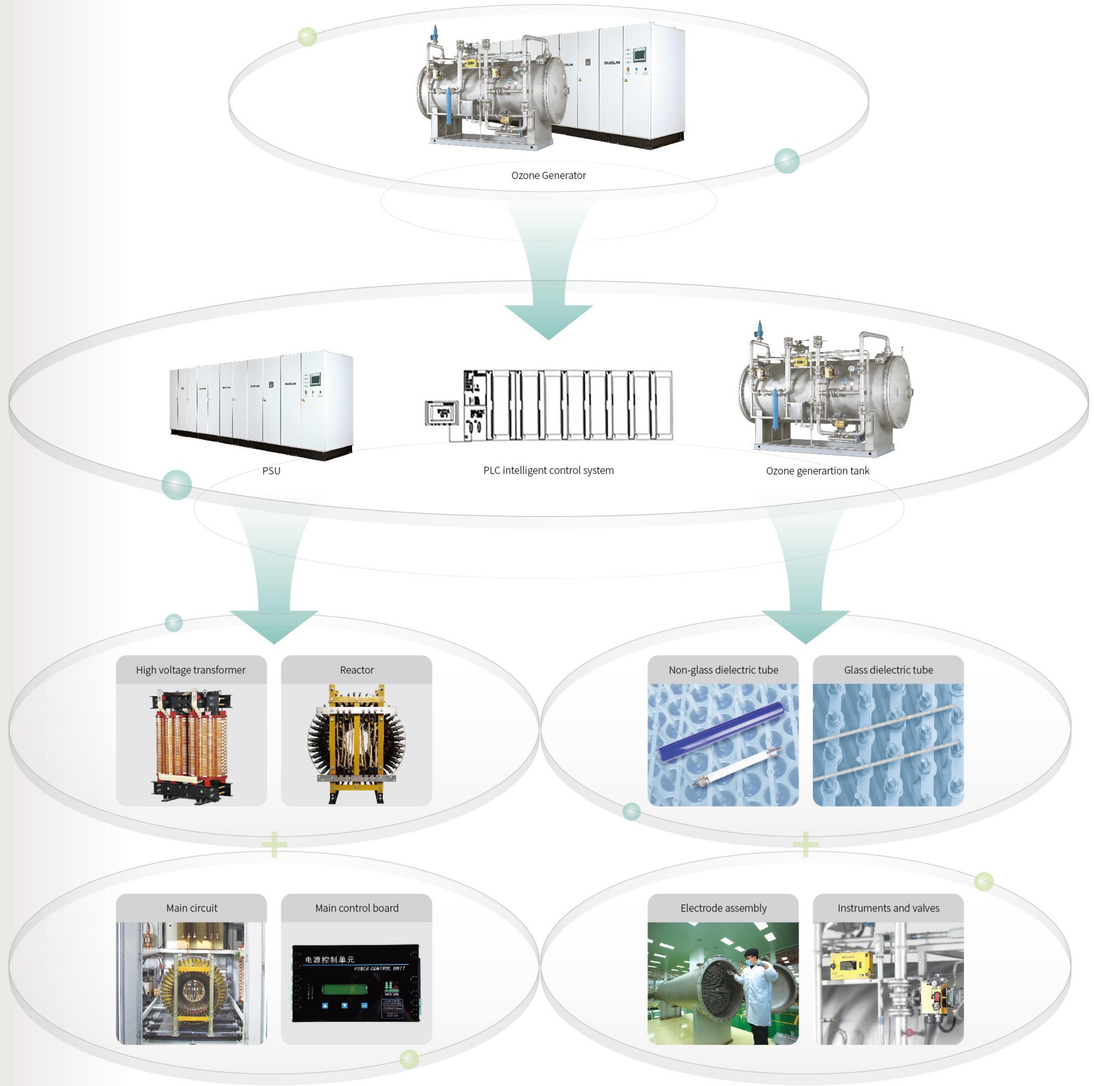
Capacitive Load High Power Inverter Resonant Power Supply Technology

The ozone dedicated power supply adopts an AC-DC-AC structure, and its main circuit consists of a rectifier circuit, a DC filtering circuit, and an inverter circuit, including auxiliary units such as current limiting circuit, control circuit, protection circuit, etc. The inverter unit applies high-frequency power electronic switch conversion technology. Based on the characteristics of the nonlinear capacitive load of the ozone generator and the discharge characteristics of different discharge media, a constant current or constant voltage source medium high frequency inverter power supply structure is designed and matched with a resonant circuit. The ozone dedicated high-power inverter resonant power supply has strong overload capacity, and has protection of overcurrent, short circuit, overvoltage, undervoltage, overload and alarm fault display function, ensuring stable and reliable operation; It also has a good human-machine interface and is easy to operate.

Key Parts for Generation Tank Safe Operation Protection

Design a dedicated high-voltage fast breaking protection device based on the discharge current characteristics of the dielectric tube in the discharge tank. When the dielectric tube discharges abnormally or is damaged for some reason, the protective device connected in series with it will be disconnected in a timely manner to achieve rapid protection without affecting the normal and stable operation of the equipment.

02 Composition of Ozone Generator



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OZONE GENERATION SYSTEM INTRODUCTION

O_3

01 Ozone Generator

Ozone generators with an ozone capacity exceeding 1kg/h are referred to as large-scale ozone generators, while those with a capacity range of 5g/h to 1000g/h are referred to as small to medium-scale ozone generators. We adopt two dielectric technology (glass dielectric tube and non-glass dielectric tube) and capacitive load high power inverter resonant power supply technology. The ozone generation system consists of ozone generators, feed gas treatment system, dosing system, ozone destruction system, instruments and control system. Ozone generators has been applied in various fields, including municipal water treatment, municipal sewage treatment, industrial wastewater treatment, flue gas denitrification, chemical oxidation, food and beverage disinfection, medical treatment, aquaculture, grain storage, and more.

大型
臭氧发生器


GUOLIN


臭氧空气消毒机


GUOLIN
OZONE GENERATOR


GUOLIN


GUOLIN


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02 Oxygen Nitrogen Generator

PSA

Guolin PSA (Pressure Swing Adsorption) oxygen generator is a high-tech equipment with low cost, small size, simple operation, easy maintenance procedure and no pollution. PSA oxygen generator gets the high praise from clients due to stable operation and safety.

Technical Advantage

·Advanced technical indicators, low power consumption, low operating costs.

· High degree of automation, simple device operation.

· Device equipped with air compressor, pneumatic program control valves and other key equipment, to ensure the reliability and stability of the system operation.

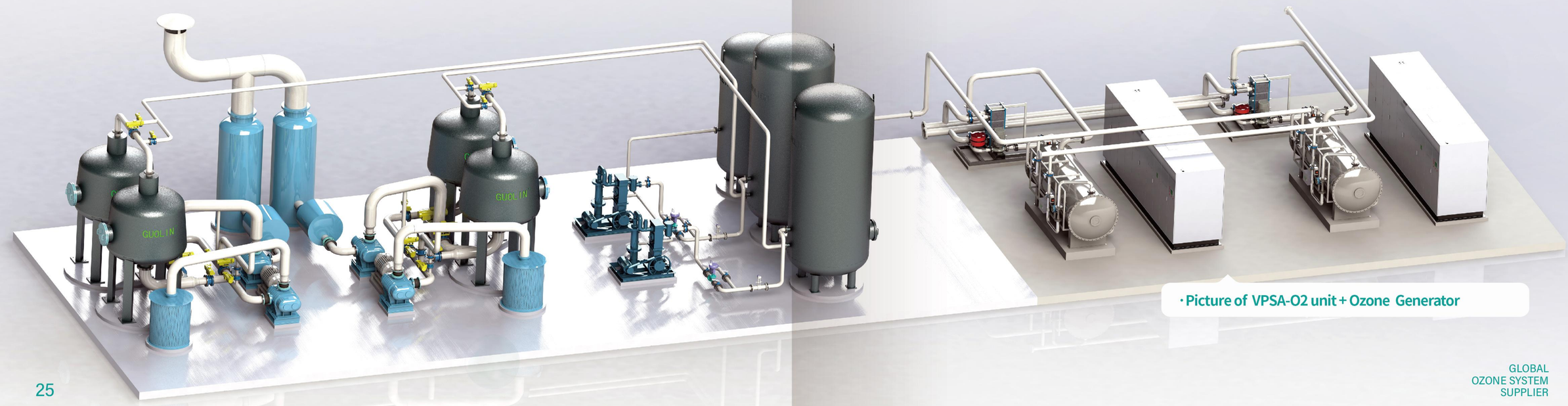
VPSA

VPSA oxygen system adopts a new radial adsorption tower equipment process, in which air enters from the bottom of the adsorption tower and is dispersed around the inner cylinder, and then passes through the adsorbent bed in the radial direction from all sides to obtain product oxygen in the central flow passage, and then exits the adsorption tower through the central design pipeline.

The radial adsorption tower process ensures that the air flow velocity in the middle line of the adsorption bed is low (the linear velocity of the empty tower is ⩽0.2m/s), the transmission quality is excellent, and the resistance is small (⩽2KPa), effectively reducing the energy loss caused by the bed resistance, and the mass transfer area is stable and controllable.

The new type of radial oxygen production adsorption tower has the advantages of uniform adsorption, high adsorption efficiency, small floor area and large scale design.

Device equipped with the Roots blower, Roots vacuum pump, air compressor, pneumatic butterfly valve and other key equipment supplied by famous brand manufacturers, so the excellent quality ensures the reliability and stability of the system operation.



· Picture of VPSA-O2 unit + Ozone Generator

03 Ozone System Accessories

20' GP

40' HQ

Dosing system with porous diffuser

Porous diffuser is made by ceramic or titanium in order to prolong the life time and improve efficiency.

Dosing system with injector (Venturi tube)

Based on the venturi principle, the water injector uses high-speed water flow to create negative pressure to suck in and mix ozone gas, effectively improving the mixing efficiency of ozone.

Cooling water system (Plate heat exchanger&pump unit)

Including plate heat exchanger, circulating water pump, expansion tank, pressure switch, etc.

Cooling water system (Chiller)

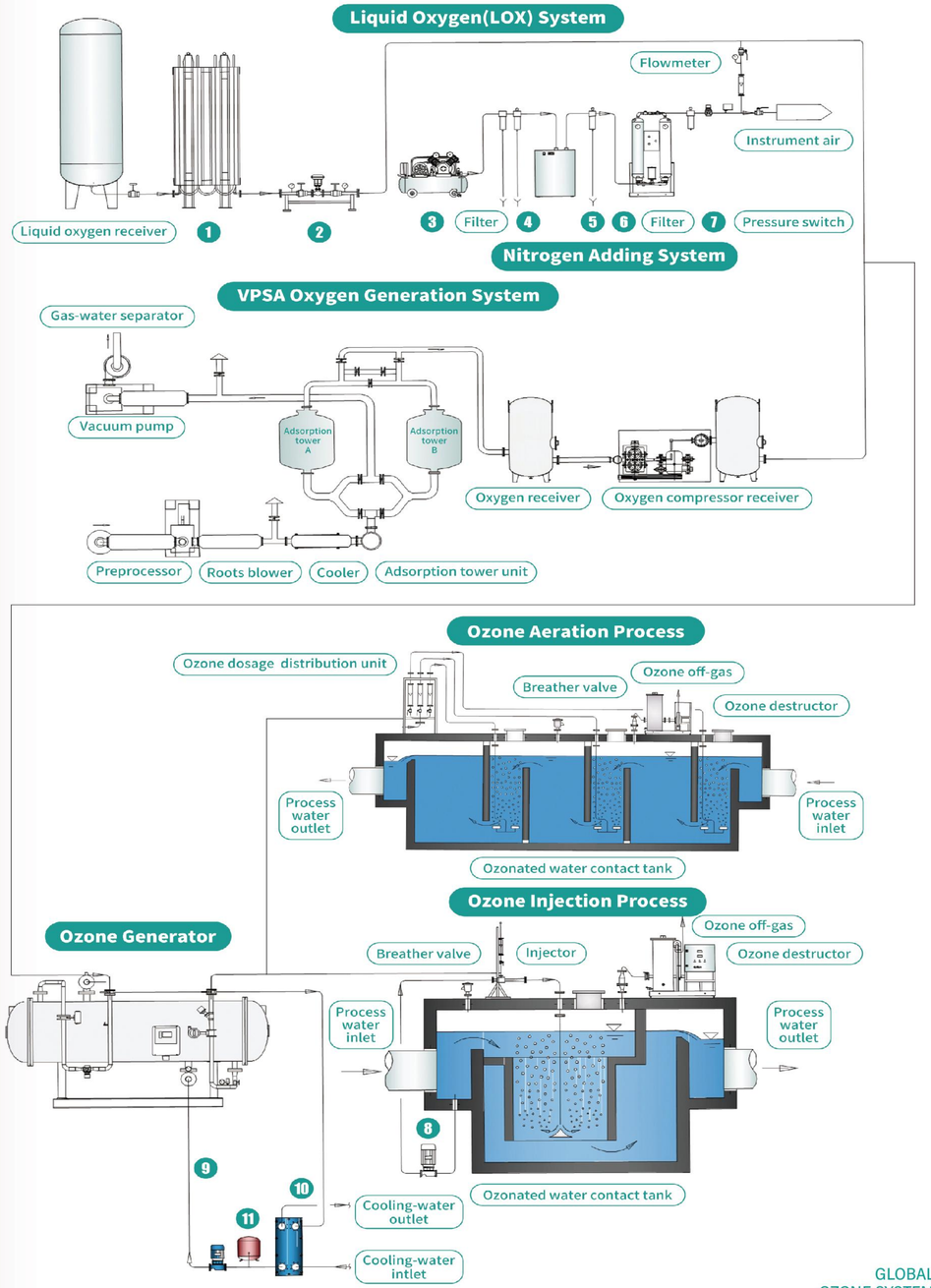
Chiller is a high-performance, low-energy green product that provides fast cooling, precise temperature control, and efficient energy conservation, meeting the precise heat dissipation needs of mid and high level equipments.

Ozone dosing and distribution unit

Ozone destructor

Utilizing a thermal-catalyst decomposition method to ensure that ozone tail gas meet the standards.

04 Ozone System Operation Procedure



EQUIPMENT TECHNICAL PARAMETER

01 Small to medium-scale equipment (10-800g/h)

Air Source

Type	Ozone capacity	Feed gas flow	Ozone concentration	Cooling water flow	Power consumption	Dimension	Weight
	g/h	Nm^3/h	mg/L	m^3/h	Kw	w*D*H mm	Kg
CF-G-3-10g	10	0.33-0.5	20-30	0.03-0.04	0.16-0.18	600*500*1480	127
CF-G-3-20g	20	0.67-1	20-30	0.06-0.08	0.32-0.36	600*500*1480	133
CF-G-3-30g	30	1-1.5	20-30	0.09-0.12	0.48-0.54	600*500*1480	140
CF-G-2-50q	50	1.67-2.5	20-30	0.15-0.20	0.80-0.90	600×800×1700	243
CF-G-2-80g	80	2.67-4	20-30	0.24-0.32	1.28-1.44	1160×700×1700	310
CF-G-2-100g	100	3.33-5	20-30	0.3-0.4	1.6-1.8	1160×700×1700	350
CF-G-2-200g	200	6.67-10	20-30	0.6-0.8	3.2-3.6	1160×700×1700	410
CF-G-2-300g	300	10-15	20-30	0.9-1.2	4.8-5.4	1160×700×1700	470
CF-G-2-500g	500	16.7-25	20-30	1.5-2.0	8.0-9.0	1260×800×1700	570
CF-G-2-600g	600	20-30	20-30	1.8-2.4	9.6-10.8	1400×800×1700	650
CF-G-2-800g	800	26.7-40	20-30	2.4-3.2	12.8-14.4	1900×900×1700	870

Oxygen Source

Type	Ozone capacity	Feed gas flow	Ozone concentration	Cooling water flow	Power consumption	Dimension	Weight
	g/h	Nm^3/h	mg/L	m^3/h	Kw	W*D*H mm	Kg
CF-G-3-10g	10	0.09-0.13	80-120	0.02-0.03	0.08-0.10	380×840×460	45kg
CF-G-3-20g	20	0.18-0.26	80-120	0.04-0.06	0.16-0.20	380×840×460	45kg
CF-G-3-30q	30	0.27-0.33	80-120	0.06-0.09	0.24-0.30	380×840×460	45kg
CF-G-2-50g	50	0.45-0.65	80-120	0.10-0.15	0.40-0.50	380×840×460	57kg
CF-G-2-80g	80	0.72-1.04	80-120	0.16-0.24	0.64-0.80	600×700×1700	204kg
CF-G-2-100g	100	0.90-1.30	80-120	0.2-0.3	0.8-1.0	600×700×1700	204kg
CF-G-2-200g	200	1.80-2.60	80-120	0.4-0.6	1.6-2.0	1160×700×1700	350kg
CF-G-2-300g	300	2.70-3.90	80-120	0.6-0.9	2.4-3.0	1160×700×1700	410kg
CF-G-2-500g	500	4.50-6.50	80-120	1.0-1.5	4.0-5.0	1160×700×1700	470kg
CF-G-2-600g	600	5.40-7.80	80-120	1.2-1.8	4.8-6.0	1260×800×1700	570kg
CF-G-2-800g	800	7.20-10.4	80-120	1.6-2.4	6.4-8.0	1400×800×1700	650kg

02 Large-scale equipment

Air Source (1-60kg/h)

Type	Ozone capacity	Feed gas flow	Ozone concentration	Cooling water flow	Power consumption	Dimension	Weight
	kg/h	Nm^3/h	wt%	m^3/h	kwh/kgO_3	W*D*H mm	T
CF-G-2-1Kg	1	30.9-38.7	2-2.5	3-4	14-16	2100×900×1700	1.4
CF-G-2-2Kg	2	61.9-77.4	2-2.5	6-8	14-16	2700×1700×1920	2.15
CF-G-2-3Kg	3	92.8-116.1	2-2.5	9-12	14-16	2700×1700×1920	2.9
CF-G-2-4Kg	4	123.7-154.8	2-2.5	12-16	14-16	330*115*205 /2400×800×2100	3.6
CF-G-2-5Kg	5	154.7-193.5	2-2.5	15-20	14-16	330*115*225 /3600×800×2120	4.7
CF-G-2-6Kg	6	185.6-232.2	2-2.5	18-24	14-16	340*125*230 /3600×800×2120	4.8
CF-G-2-8Kg	8	247.5-309.6	2-2.5	24-32	14-16	340*145*230 /3600×800×2120	6.0
CF-G-2-10Kg	10	309.4-387	2-2.5	30-40	14-16	450*132*220 /4800×1000×2120	7.9
CF-G-2-15Kg	15	464-580.5	2-2.5	45-60	14-16	440*165*260 /5400×1200×2200	12.1
CF-G-2-20Kg	20	618.7-774	2-2.5	60-80	14-16	440*190*280 /6000×1400×2400	14.5
CF-G-2-30Kg	30	928.1-1161	2-2.5	90-120	14-16	415*165*270 /6000×1400×2400	21
CF-G-2-40Kg	40	1237.4-1548	2-2.5	120-160	14-16	430*190*320 / 7200×1400×2400	24
CF-G-2-50Kg	50	1546.8-1935	2-2.5	150-200	14-16	440*215*350 /7200×1400×2400	28
CF-G-2-60Kg	60	1856.1-2322	2-2.5	180-240	14-16	440*230*360 / 7200×1400×2400	35

Oxygen source (1-150kg/h)

Type	Ozone capacity	Feed gas flow	Ozone concentration	Cooling water flow	Power consumption	Dimension	Weight
	kg/h	Nm^3/h	wt%	m^3/h	kwh/kgO_3	W*D*H mm	T
CF-G-2-1Kg	1	6.8-8.5	8-10	1.7-2	7-7.5	1260×800×1900	0.9
CF-G-2-2Kg	2	13.5-17	8-10	3.4-4	7-7.5	2000×800×1900	1.5
CF-G-2-3Kg	3	20.2-25.5	8-10	5.1-6	7-7.5	2400×1700×1920	1.7
CF-G-2-4Kg	4	27.1-39	8-10	6.8-8	7-7.5	2400×1700×1920	1.9
CF-G-2-5Kg	5	33.8-42.5	8-10	8.5-10	7-7.5	2400×1700×1920	2.0
CF-G-2-6Kg	6	40.6-51.1	8-10	10.2-12	7-7.5	2500×950×2000/2400×800×2100	2.5
CF-G-2-8Kg	8	54.1-68.1	8-10	13.6-16	7-7.5	2600×1000×2000 /2400×800×2100	2.7
CF-G-2-10Kg	10	67.6-85.1	8-10	17-20	7-7.5	400*100*210 /3600×800×2120	3.9
CF-G-2-15Kg	15	101.5-127.7	8-10	25.5-30	7-7.5	410*110*220 /3600×800×2120	5.0
CF-G-2-20Kg	20	135.5-170.2	8-10	34-40	7-7.5	420*120*230 / 4800×1000×2160	6.9
CF-G-2-30Kg	30	203.0-255.3	8-10	51-60	7-7.5	430*130*230 / 5400×1200×2160	9.4
CF-G-2-40Kg	40	270.6-340.4	8-10	68-80	7-7.5	430*145*260 / 5400×1200×2160	10.7
CF-G-2-50Kg	50	338.3-425.5	8-10	85-100	7-7.5	415*155*270 /6000×1400×2400	13.8
CF-G-2-60Kg	60	405.9-510.6	8-10	102-120	7-7.5	415*165*270 /6000×1400×2400	15.5
CF-G-2-80Kg	80	541.3-680.8	8-10	136-160	7-7.5	430*190*320 / 7200×1400×2400	20.7
CF-G-2-100Kg	100	676.6-851.1	8-10	170-200	7-7.5	440*215*350 /7200×1400×2400	24.9
CF-G-2-120Kg	120	811.9-1021.3	8-10	204-240	7-7.5	440*230*360 / 7200×1400×2400	26.6
CF-G-2-150Kg	150	1012.5-1276.5	8-10	255-300	7-7.5	5000×2400×3700 / 8400×1400×2400	34

03 Specifications of integrated ozone generator for space disinfection

Type	Ozone capacity (g/h)	Feed gas flow (Nm^3/h)	Cooling water flow(m^3/h)	Pover supply(V/Hz)	Power consumption (Kw)	Gas outlet size	Corollary equipment	Dimension(mm)
PL-ST-GL-001A	5	Built-in air pump	Air cooling	220/50	0.18	ϕ65Diffusive pore	Built-in feed gas treatment system	350*440*230
PL-ST-GL-001C	10	Built-in water tank			0.35	ϕ25UPVC Pipe		480*400*880
PL-ST-GL-002	15				0.45	G3/4"Internal thread		800*280*580
PL-ST-GL-001G	30				0.75	ϕ25UPVC Pipe		450*720*880
CF-G-2-50g	50				1.35	ϕ32UPVC Pipe		1000*800*1700
CF-G-2-80g	80				1.80	ϕ40UPVC Pipe		
CF-G-2-140g	140			380/50	3.20	ϕ50UPVC Pipe		1200*800*1700
CF-G-2-200g	200				4.40	ϕ63UPVC Pipe		

04 Specifications of negative pressure ozone generator for swimming poor

Type	Ozone capacity (g/h)	Ozone concentration (mg/L)	Cooling water flow(m^3/h)	Pover supply(V/Hz)	Average operating power(Kw)	Gas outlet size	Cooling water inlet size	Dimension(mm)
SCF-25g	25.00	⩾20	0.10	220/50	1.25	G1/2"	G1/2"	600*800*1700
SCF-40g	40.00		0.16		1.90			
SCF-50g	50.00		0.20		2.00			
SCF-80g	80.00		0.32		2.60			1000*800*1700
SCF-100g	100.00		0.40	380/50	3.25	G3/4"	G3/4"	1200*800*1700
SCF-150g	150.00		0.60		4.25			1400*800*1700
SCF-200g	200.00		0.80		6.25			1600*800*1700
SCF-250g	250.00		1.00		7.25			
SCF-300g	300.00		1.20		8.25			1800*800*1700
SCF-350g	350.00		1.40		10.25			2000*800*1700
SCF-400g	400.00		1.60		11.25			

05 Specifications of integrated ozonator

Type	Ozone capacity (g/h)	Ozone concentration (mg/L)	Cooling water flow(m^3/h)	Pover supply(V/Hz)	Average operating power(Kw)	Cooling water inlet size	Dimension(mm)
CF-G-3-10g	10.00	⩾25	0.04	220/50	1.42	G1"	1050*600*1570
CF-G-3-20g	20.00		0.08		2.07	G1-1/4"	
CF-G-3-30g	30.00	⩾100	0.06		1.48	G1"	1300*600*1570
CF-G-3-40g	40.00		0.08		1.64		
CF-G-3-50g	50.00		0.10		1.83		1400*600*1570
CF-G-3-60g	60.00		0.12		2.43	G1-1/4"	
CF-G-2-80g	80.00		0.16		3.26		1400*800*1770
CF-G-2-100g	100.00		0.20		3.46		

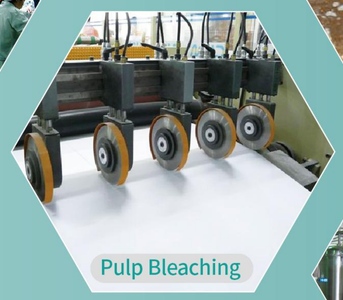
06 Specifications of ozone generator (include oxygen generator)

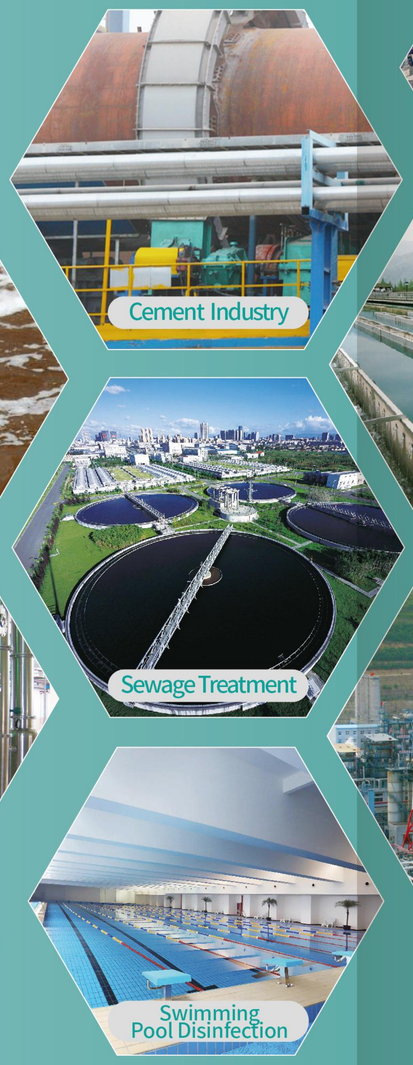
Type	Ozone capacity (g/h)	Feed gas flow(Nm^3/h)	Ozone concen-tration (mg/L)	Cooling water flow (m^3/h)	Pover supply (V/Hz)	Power consumption (Kw)	Gas outlet size	Cooling watersize	Dimension(mm)	Corollary equipment
CF-G-3-10g	10	0.10	80-120	0.02	220/50	0.75	G1-1/4"	G1-1/4"	600*500*1500	Built-in oxygen generation system
CF-G-3-20g	20	0.18		0.04		0.85				
CF-G-3-30g	30	0.30		0.06		1.00				
CF-G-3-50g	50	0.45		0.10		1.20				
CF-G-3-60g	60	0.60		0.12		1.40				
CF-G-3-80g	80	0.80		0.16		2.10	G1-1/2"	G1-1/2"	600*800*1700	
CF-G-3-100g	100	1.00		0.20		2.40				

07 Specifications of high concentration ozonated water machine

Type	Feed gas flow (Nm^3/h)	Ozone concentration (mg/L)	Cooling water flow (m^3/h)	Pover supply (V/Hz)	Power consumption (Kw)	Gas outlet size	Cooling water size	Dimension(mm)	Corollary equipment
2t/h	0.40	0-25	0.08	220/50	2.00	G1-1/4"	ϕ 25 Sanitary grade clamp	1100*600*1700	Built-in oxygen generation system and dosing system
4t/h	0.80		0.16	380/50	4.50	G1-1/2"	ϕ 38 Sanitary grade clamp	1100*800*1700	
6t/h	1.00		0.20		4.00				Connect external feed gas and dosing system
12t/h	2.00		0.40		7.50		ϕ 51 Sanitary grade clamp	1300*800*1700	
20t/h	3.00		0.60		9.50		ϕ 76 Sanitary grade clamp		

OZONE APPLICATION FIELD



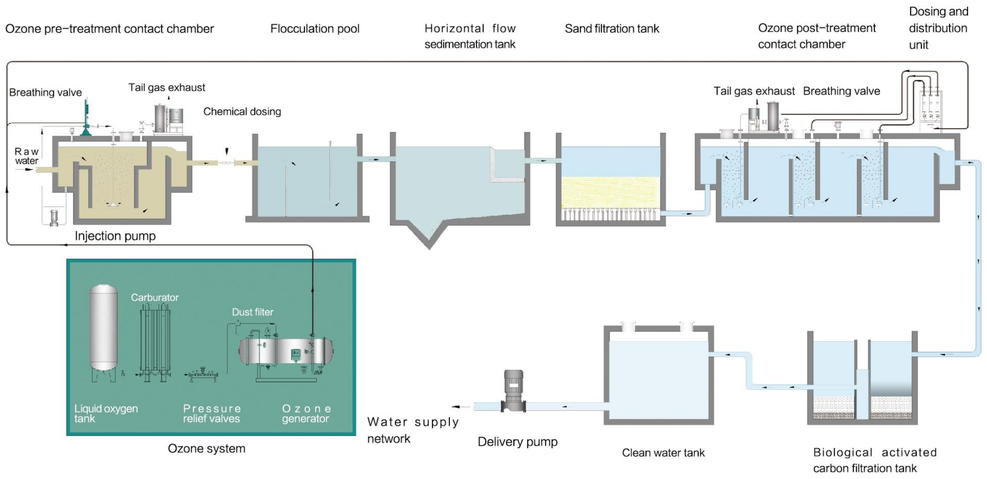


GUOLIN OZONE SOLUTIONS

01 Municipal Water Supply Treatment

Drinking water advanced treatment uses ozone-activated carbon technology. With strong oxidation ability of ozone, this kind of treatment technology can decompose organics, improve degradation ability of activated carbon to organics, kill bacteria and virus effectively, reduce by-product and remove odor in order to improve water quality and taste.

➤ O_3—BAC Process



➤ Ozone Function

Decompose organic and inorganic pollutants which are difficult for degradation, such as benzene, phenol and its derivatives, cyanide, sulfide, manganese, iron, humic acid, pesticides, herbicides;

Kill chlorine resistant "two worms", bacteria, viruses, algae, decolorization, deodorization and reduce turbidity;

Decompose endocrine disruptors to avoid generation of haloge nated hydrocarbons, chloramine and other carcinogenic matters;

To improve the DO (dissolved oxygen) concentration in water, the macromolecular organic matter is degraded into small molecules, and improve the degradation efficiency and persistence of COD and ammonia nitrogen in the following BAC process.

Kunshan Water Plant 2*20KG Ozone Generation System

Wujiang Water Plant 2*20KG Ozone Generation System

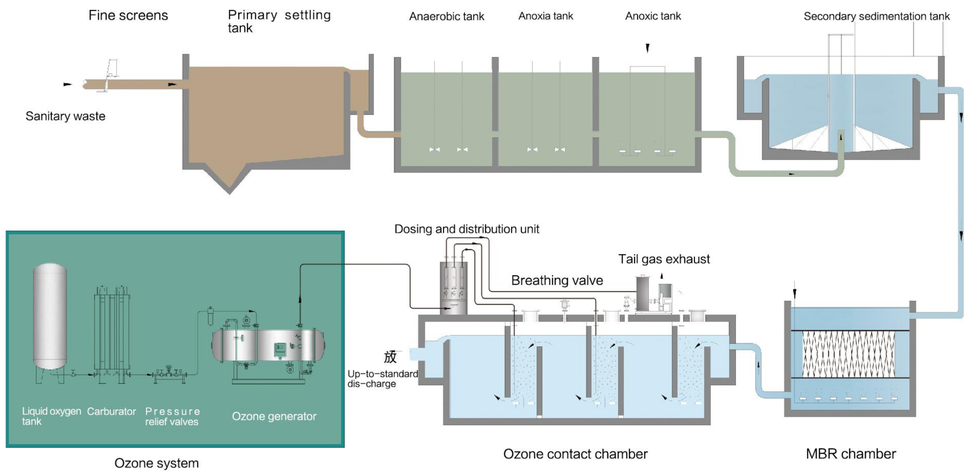
Jinan Water Plant 2*10KG Ozone Generation System

Shanghai Water Plant 2*10KG Ozone Generation System

02 Municipal Waste Water Treatment and Reuse

Ozone decomposes organics which is difficult to be degraded in order to improve biodegradability of waste water. Ozone can kill bacteria and virus with resistance to chloridization, as well as decolorize, deodorize and increase dissolved oxygen in water.

Waste Water Treatment Flow chart



Ozone Function

Further degradation of organic compounds which are difficult for biochemical treatment.
Reduce the color and turbidity of effluent.
Kill escherichia coli and virus in water.
Remove the odor from water.

Shijiazhuang Sewage Treatment Plant 5*120KG
Ozone Generation System

Beijing SewageTreatment Plant 3*35KG
Ozone Generation System

03 Industrial Waste Water Treatment

Although the ingredient of petroleum and petrochemical waste water is complicated and concentration is high which lead to difficult degradation, ozone can remove poisonous substance, decompose benzene, phenol and derivant and improve biodegradability of waste water, as well as decolorize and deodorize.Ozone with strong oxidation ability can decompose organics which is difficult to be treated by biological-chemical technology and poisonous substance in discharged waste water from industry of printing and dyeing, pharmacy production, pigment production, electronics and chemical, etc. Ozone also can remove color and odor in such kind of waste water. Waste water after treatment could reach discharge or reuse standards.

Ozone + Combined Process

Because of the high concentration of COD, the direct oxidation of ozone is not economical, so combined process is always used.

Use ozone to improve biodegradability. The common combined process is ozone +BAF, ozone + catalyst, ozone +H2O2, MBR+ ozone, ozone +BAC.

Ozone Function

Broken chain and decompose the macromolecular organic matters which are difficult for biological treatment;

Open loop, decompose benzene, phenol and its derivatives;

Detoxification, reduce toxicity of waste water which includes cyanide, pesticides or others.

Decolorization, interrupting the chromophore group.

Shaoxing Waste Water Treatment Plant 5*120KG
Ozone Generation System

Yangzhou Waste Water Treatment Plant 4*50KG
Ozone Generation System

Sinopec(Jinjiang) Petrochemical Wastewater
Treatment Plant 3*7KG Ozone Generation System

Sinopec(Yunan) Petrochemical Wastewater
Treatment Plant 3*55KG Ozone Generation System

04 Flue Gas Denitrification

Ozone with strong oxidation ability can transfer insoluble nitrogen oxide with low valence into soluble nitrogen oxide with high valence, and then nitrogen oxide with high valence will be adsorbed and washed by alkalization. Without increasing temperature of flue gas and using reductants, ozone can be well used in flue gas denitrification. Under unstable condition of NOx content and flue gas flow rate, it can be controlled flexibly. Removal rate can reach above 90%. Ozone also can remove heavy metal .

Ozone Oxidation Denitrification Technology

Work Principle

When the flue gas temperature reaches 100- 200℃, ozone and catalytic oxidation device make low state nitrogen oxide in the flue gas

which is insoluble in water to be oxidized into nitrogen oxide which is soluble in water, and then nitrogen oxide will be adsorbed by alkaline washing process.

Technical Characteristics

(1) works under the condition of 100- 200℃ flue gas temperature without increasing flue gas temperature to achieve energy conservation.

(2) Ozone is decomposed into oxygen without second pollution; do not use ammonia and other reducing agents to avoid ammonia escape problem.

(3) Clearance rate is higher than 90% even if the NOx content and flue gas volume are not stable.

(4) It is not influenced by dust in the flue gas. It can be combined with desulfurization to do integrated washing, while the heavy metal mercury could also be removed.

Sinopec(Dushanzi) Flue Gas Denitrification Project
3*20KG, 2*30KG &7*80KG Ozone Generation System

SPC(Shanghai) Flue Gas Denitrification Project
5*80KG Ozone Generation System

05 Chemical Oxidation

Ozone can easily break the carbon chain of organics, such as alkene and alkyne, and then makes them to combine to new chemical compound after oxidation. With this kind of function, ozone can be widely used in spice, pharmaceutical and chemical intermediates synthetise, modification of carbon black and coating material.

Ozone Function

As an oxidant, a catalyst and a refining agent, ozone is widely used in fragrance, carbon black and pharmaceutical industries, etc. The strong oxidation ability of ozone is easy to break the carbon chain bond of organics such as alkenes and alkynes, making them partially oxidized and recombined into new compounds.

Using ozone instead of traditional oxidant, the product quality is improved, the cost is reduced, the reaction time is shortened and the environmental pollution is reduced.

Spice oxidation/pharmaceutical intermediates

It is a typical gas-liquid reaction to add the raw materials that need to be oxidized into the oxidation tower/reactor and then pass ozone to oxidize. Ozone concentration, mixing mode, mass transfer efficiency, solvent selection and reaction temperature control are important factors and safety guarantee that affect ozonation reaction. A suitable solvent keeps the reaction mixture at a low consistency, facilitating gas distribution and ozone absorption.

Carbon black oxidation

The surface properties of carbon black can be changed by ozone oxidation and the volatiles and fluidity of carbon black can be improved.

Oxidation methods are divided into gas phase and liquid phase. The gas phase is mainly through the oxidizing gas, and the liquid phase is mainly through the use of nitric acid, ozone water and other solutions,etc. Ozone oxidation replaces nitric acid oxidation, better quality, and reduce acid pollution to the environment.

Zhejiang Pharmaceutical Workshop 20KG
Ozone Generation System

Yangzi Pharmaceutical Workshop 3*25KG
Ozone Generation System

06 Space Disinfection

Ozone possesses excellent disinfection efficacy. When ozone disinfection is applied, it diffuses uniformly in a relatively sealed environment, overcoming the shortcomings of other disinfection methods such as ultraviolet light, which may have dead spots and longer disinfection cycles. Ozone can achieve all-around, rapid, and efficient disinfection and sterilization. Pharmaceutical companies commonly use ozone disinfection methods in clean rooms to meet GMP certification requirements. Food companies often use ozone processes for disinfection, preservation, and extending shelf life.

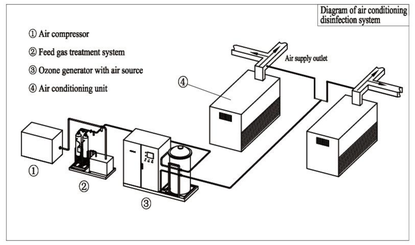
GMP Workshop or Food Purification Class Requirements

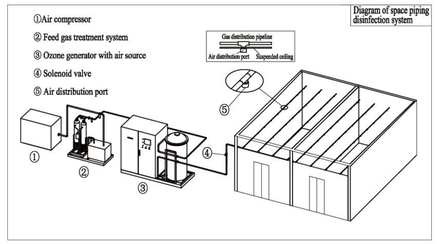
Class 300,000.00	Class 100,000.00	Class 10,000.00	Class 100.00
2.5PPm	5.0PPm	15PPm	20PPm

Air Disinfection Concentration for Different Applications

Application	Disinfection object	Ozone concentration (PPm)	Disinfection object	Ozone concentration (PPm)
Disinfection	Medical appliance	20	Sickroom,operation room	10-20
	Cold storage	6-10	Work clothes disinfection	10-20
	Food factory	5-10	——	——
Anti-mildew Fresh-keeping	Public place	1-2	Vegetables of less chlorophyll	1.5-1
	Eggs	2-2.5	Fish, cheese	0.5-1
	Apple, banana	2.5-3.5	——	——
Deodorization Purification	Fish processing factories	3	Rubber plant	3-10
	Slaughter workshop	2-3	Waste disposal	10
	Fatty acid plant	10	——	——

Ozone Dosing Mode





07 Bottle Water Disinfection

Ozone has been widely used in drinking water disinfection treatment. Pure water, spring water, mineral water, groundwater after filtered will be disinfected by ozone. When ozone is used for bottle water disinfection, please refer to the following data:

water quality classification	dual water supply	purified water	natural water	running water
ozone dissolved concentration	0.1-0.3mg/L	0.2-0.4mg/L	0.4-0.6mg/L	0.4mg/L
ozone dosage quantity	1-2g/T	2-3g/T	3-5g/T	2-3g/T

08 Direct Drinking Water

The direct drinking water quality supply system uses tap water as the source water, which is then treated through filtration and ozone disinfection processes. It is delivered directly to residential homes, office floors, and office spaces through dedicated pipelines. When in use, you only need to open the water valve to enjoy safe and healthy drinking water.

09 Swimming Pool Water Treatment

After ozone is dissolved in water, ozone water can quickly kill the water of bacteria, fungus, escherichia coli, viruses and other micro cure microorganisms and it also can oxidize organic matter completely with high oxidative capacity.

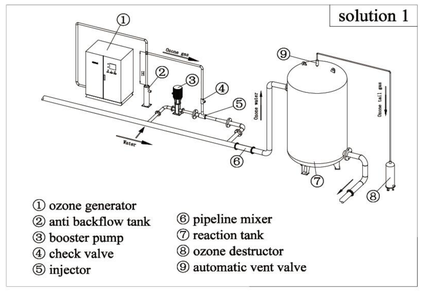
It can achieve disinfection, sterilization, deodorization and prevention of infectious diseases spread by ozone oxidation to swimming pool water, at the same time, ozone can oxidize iron, manganese and other metal ions in water and decompose micro organism of scattered ray in the water to improve water clarity and make water to show a beautiful blue color. The use of ozone treatment for swimming pool water is currently widely used in the world.

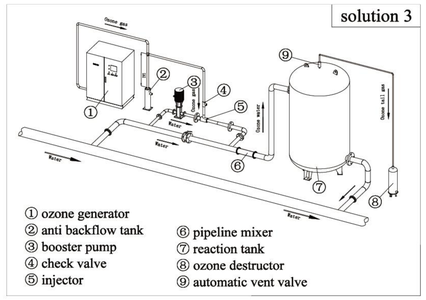
Disinfection Process

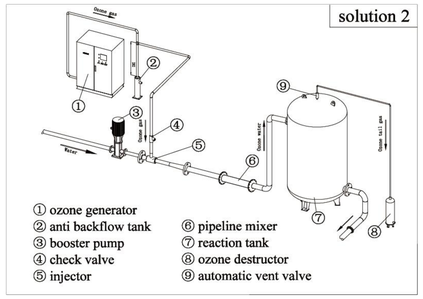
According to the technical rules for swimming pool disinfection, pool disinfection process is divided into full process mode and half process mode, both of them can be chosen according to the actual design requirements of disinfection.

Generally speaking, ozone will be dosed into water by negative pressure way and then mixed with water by special mixer to reach the disinfection requirements by final reaction tank and ancillary facilities. (i.e., CT = 1.6).

Picture for full process mode and half process mode







10 Aquaculture

As the saying goes, "To raise fish, you must first treat the water," which means that ensuring water quality is the key to successful aquaculture. Ozone's oxidative properties not only have the ability to sterilize and disinfect but also can coagulate and precipitate to remove iron and manganese ions, oxidize shrimp feces and leftover feed, and reduce the generation of organic acids, thereby controlling the pH of the water. Ozone generators can also increase the dissolved oxygen levels in the water to some extent, thus preventing odors, discoloration, and keeping the water quality fresh. In the practical application of industrialized closed-loop aquaculture equipment, especially under conditions of high density and limited water volume, the requirements for water quality become even more stringent. In many domestic aquaculture operations in China, ozone disinfection technology is widely adopted to meet these stricter water quality standards.

11 Aquarium

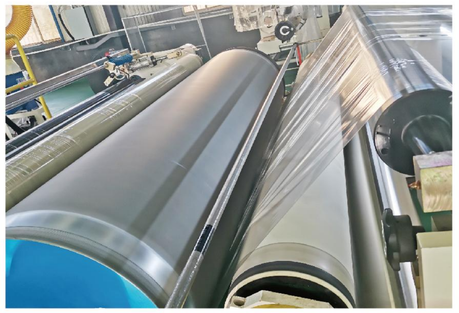
The use of ozone for sterilization and disinfection of water has been successfully implemented in major aquariums, achieving excellent results. The excretions of animals, leftover feed, and some of the bacteria nurtured in biological filtration systems can potentially affect the safety of marine life in the entire exhibit pool. Therefore, it is essential to have a safe and reliable sterilization system in place. Using ozone generators significantly simplifies the management and operation of water treatment processes. Meanwhile, ozone generator is highly safe to use. It has the ability to breakdown organic substances in the water and acts as a micro-flocculant, assisting sand filtration in removing metal salts and organic materials, oxidizing iron and manganese ions in the water, breaking down tiny organic particles that scatter light. As a result, this greatly enhances water clarity and gives the water a beautiful blue appearance.

12 / Livestock Farming

Using ozone generators can disinfect the air and water in livestock farms, effectively killing bacteria and viruses, eliminating odors, suppressing airborne pathogens, reducing the overall viral load in the environment, lowering the incidence of diseases in livestock, reducing the need for medication, and aiding in early livestock marketing.

13 / Packaging with Film

The commonly used film materials, such as PP and PE films, are non-polar high molecular materials with chemical stability and low surface tension. Meanwhile, they have difficulty adhering to ink due to the influence of additives such as surfactants, antistatic agents, and aging inhibitors during resin synthesis. To address this issue, a certain concentration of ozone gas is introduced into the gap between the PE film and paper, instantly roughening and oxidizing the surface of the film by leveraging the strong oxidative properties of ozone, effectively increasing the film's adhesion. This results in high composite efficiency with no pollution, making it an environmentally friendly and green solution.



14 / High Concentration Ozonated Water

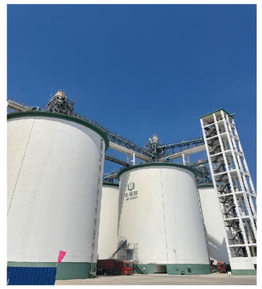
Utilizing high concentration ozonated water for continuous immersion sterilization of the surface of raw materials, as well as soaking and rinsing of pipelines, storage containers, filling lines, packaging materials, achieves efficient and thorough sterilization without dead spots. This approach helps avoid the emission and residue of harmful substances that may result from the use of other chemical disinfectants.

15 / Production Water Treatment

Ozone has a wide range of applications, offering excellent sterilization effects along with capabilities for decolorization, deodorization, removal of iron, manganese, oxidation and decomposition of organic compounds, and coagulation. Ozone has a wide range of applications, offering excellent sterilization effects along with capabilities for decolorization, deodorization, removal of iron, manganese, oxidation and decomposition of organic compounds, and coagulation. Ozone generators are used in the production and processing of drinking water, alcohol, meat products, seafood, soy products, and more. They improve water quality and taste, are environmentally friendly, leave no residue, and do not cause secondary pollution.

16 Grain Storage Disinfection

Ozone can effectively eliminate various bacteria, fungi, molds, viruses, and microorganisms that may be present on grains, thus inhibiting fermentation and molding during long-term grain storage. The use of ozone fumigation in grain storage can significantly extend the safe storage period of grains. Additionally, ozone can degrade any residual pesticides present in the grains, enhancing food safety, reducing the moisture content in grains, effectively improving grain quality and raising the level of grain preservation.



17 Hospital Water Treatment

The hospital wastewater contains a large number of bacteria, viruses, parasite eggs, and toxic substances, some of which may be radioactive.

Ozone's germicidal ability is unaffected by changes in pH and the presence of ammonia.

Ozone can oxidize and precipitate certain heavy metal ions (such as Pb and Hg) to achieve separation.

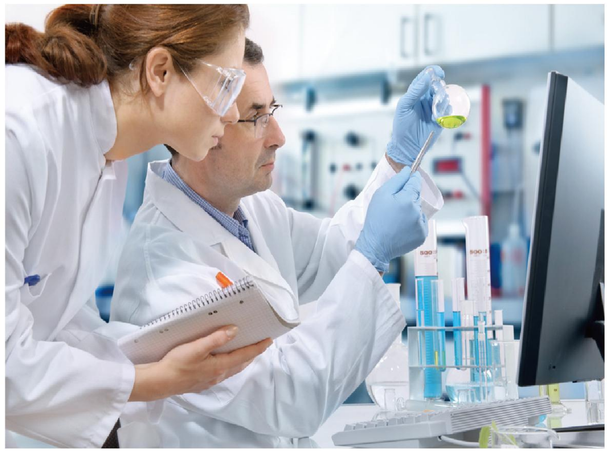
Ozone can also reduce BOD and COD, remove nitrite, decolorize, and deodorize water.

18 Rural water treatment

Rural drinking water projects are often small in scale and highly dependent on the quality of water sources. Many water sources come from groundwater and surface water, and groundwater can be influenced by the quality of surface water, resulting substandard water quality. Ozone generators are widely used in rural water treatment due to their ability to effectively disinfect and sterilize without leaving dead spots, ensuring safety and efficiency, and preventing secondary pollution.

19 Research Experiments

For research institutions and experimental units, we have specially designed a high-concentration ozone generator for experiments. It boasts advantages such as compact size, high concentration, and ease of operation, catering to the experimental needs across various industries.



GUOLIN
国 林 科 技

GLOBAL
OZONE SYSTEM
SUPPLIER

GUOLIN SEMICONDUCTORS INDUSTRY-OZONE GENERATOR

Product Introduction

Electronic-grade Ultrapure Ozone Generator

The foundation of this generator lies in high concentration, ultrapure, and highly refined ozone technology. Ozone is used in the electronics industry for the formation of CVD and ALD thin films, oxide growth, photoresist removal, and various cleaning applications. The CFB-ODSN series ozone generator is capable of producing high-concentration, high-flow, high-pressure ultrapure ozone. It features an overall modular design, compact structure, simplicity, and data visualization.

Ozone Gas Transport System

The ozone gas transport system can produce ultrapure and reliable ozone gas. In a clean semiconductor environment, using ozone gas reactions for chemical vapor deposition (CVD) and atomic layer etching (ALE). This system adopts high-concentration and ultrapure ozone generation technology, precise ozone concentration detection, flow and pressure control, stable power supply, and safety protection features. It is a freely combinable, highly integrated modular ozone system that can be equipped with multiple sets of CFB-DTCN series generators to create a multi-channel system, meeting various ozone gas application requirements.

Semiconductor-grade High Concentration Ozonated Water System

The semiconductor-grade high concentration ozonated water system is specifically developed and designed for the semiconductor industry. This system adopts high concentration, ultrapure ozone generation and mixing control technology, utilizing high-quality and ozone-resistant materials to provide the semiconductor industry with ultrapure, high concentration ozonated water. Ozonated water is widely used in cleaning and oxidation processes, such as the removal of particles, metal ions, natural oxide layers, and organic substances. Ozonated water serves as a new cleaning method that can replace SC1 and SC2, significantly reducing industrial pollutant emissions, lowering cleaning costs, and improving cleaning effectiveness.

GUOLIN
HEALTH CARE

Product Introduction

USB Ozone Purifier

This is an air purification device typically placed in the corners of commercial spaces. It can disinfect the surrounding environment through the ozone released by the device.

Medical&Home Oxygen Generator

Core Product Features:

This product has obtained medical device certification. A stable and reliable oxygen supply is the primary consideration. Guolin Health oxygen concentrator was designed from the outset to meet the high standards required for medical device certification, surpassing national standards in terms of oxygen concentration and purity.

Stable and High Oxygen Concentration:

- Medical oxygen concentration of over 90%, continuously supplied for at least 40 hours per session (at 2L flow rate);
- Dew point: ⩽ 43℃;
- CO_2 content: /10-6 ⩽ 100;
- CO content: /10-6 ⩽ 5;
- Solid substance content: ⩽ 1mg/m^3;

Product Advantages:

- Suitable for a wide range of users.
- Adjustable flow rate from 1 to 5 liters, meeting the oxygen supply needs of 95% of the population.
- Silent operation ensures peaceful sleep, with machine noise levels not exceeding 60 dB(A).
- Multi-layer oxygen filtration for safety and reliability.
- Supply medical-grade stable oxygen, the concentration meets national medical standards.
- One click start, convenient and fast, intelligent wireless remote control.

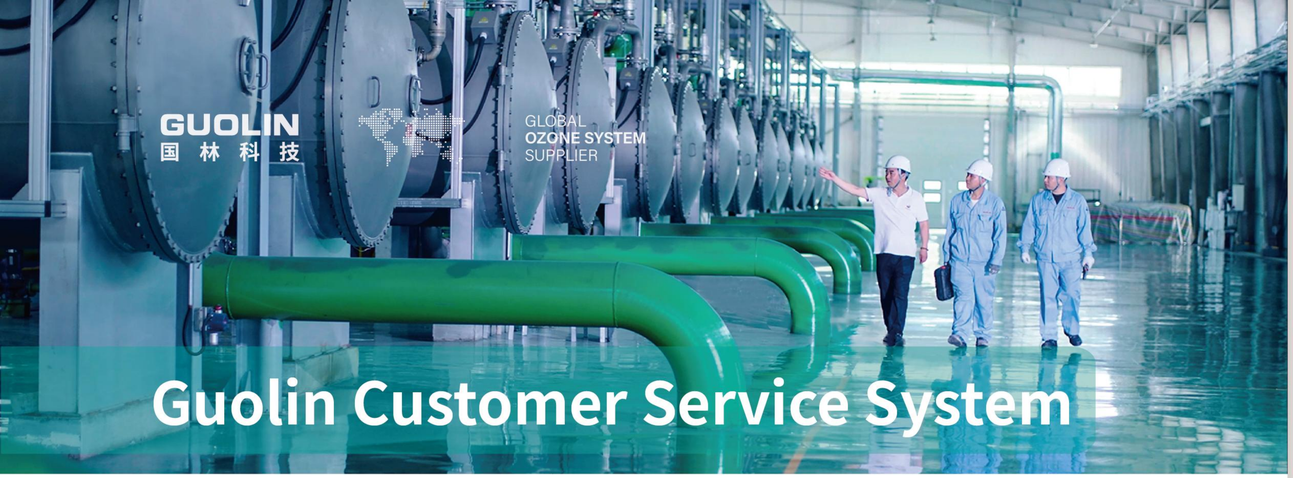
Ultra-low Temperature Oxygen-enriched Atomic Machine

Core Product Features:

The electrolysis ozone generation tank technology developed by Guolin Health can produce high-purity, high-concentration, and controllable superoxygenated water. Superoxygenated water has a wide range of functional effects, and different concentrations can be applied in various industries. High purity ensures that the product is effective without causing any side effects or unexpected reactions. The product concept is to create a multifunctional physiotherapy device that can be used at home. The health-friendly and harmless superoxygenated water can be directly used for wound cleaning, beauty care, disinfection, and other applications with excellent results. It achieves the goal of being odorless and coexisting harmoniously with humans.

Product Functions:

- Dust mite removal, whitening, oral care, wound cleaning, makeup removal, skin tone evenness, disinfection and sterilization, surface disinfection, pesticide residue removal.



Guolin Customer Service System

Our customer service team takes "meeting the needs of customers" as the basic work orientation, providing the whole life cycle of ozone generator system installation, debugging, maintenance and technical transformation, simultaneously providing the professional maintenance and upgrading services of generators of various brands, and integrating value-added services into the whole circle of customer service for each customer over the world.

Intelligent Proactive Service

We have established comprehensive customer service records and provide proactive services to you through our management platform.

Global Service and Maintenance

We have more than 80 service engineers who can be sent to overseas countries for equipment installation and commissioning, after-sales maintenance, equipment overhaul and other services.

Attentive Expert Service

We have long-term cooperation with ozone operation and application technical experts from all over the world to establish a normal global mobile service system, footprint all over the world, and collaborate to provide customer with value-added technical and consulting services.

Upgrading Service

We are committed to continuous innovation and improvement in ozone generator technology. To ensure the stable operation of ozone systems, we can collaborate with you to upgrade and retrofit relevant equipment in the ozone generation system, addressing any concerns you may have.

After-sales Service Hotline/Email

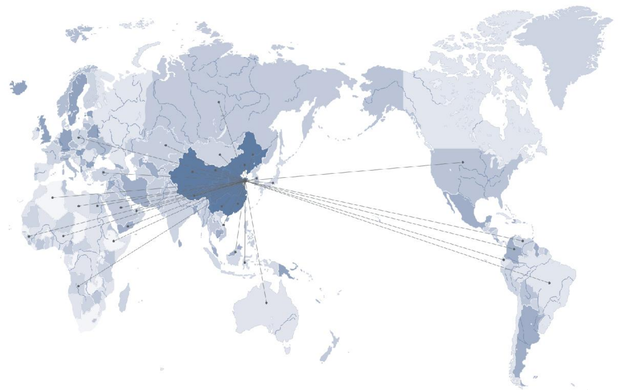
+85-053284992526
ozone@china-guolin.com

Customer Service Support

·Operation of Services:

According to the customer needs of different customers, our company can provide in-factory service, monthly inspection service, quarterly inspection service, semi-annual inspection service and overhaul of ozone generator, or work mode and inspection mode that can be negotiated.

·cooperation scope:



·Service Content:

Customer Records

Customer service team establishes digital profile for each equipment sold. The documents records the contract content, technical parameters after debugging, equipment usage status, maintenance situation, user opinions or suggestions and other information. The profile can be checked at any time to better serve client.

Timely Responses

Customer service team provides 24-hour * 365 year-round no-break mode to answer users' repair questions and other inquiries in a timely manner. The response time of maintenance is generally 24-48 hours(in China mainland).

Technical Consultation

Customer service team provides technical consultation at any time to answer users' questions about the use of equipment (except technical secrets), and tries our best to help users solve relevant problems encountered.

Accessories Sales

Our company formulates reasonable price strategy and after-sales service to ensure the quality and performance of accessories, and provides customers with various types and specifications of ozone generator accessories to meet the needs of different types of ozone generators.

Cleaning Service

Our company formulates reasonable cleaning cycle and cleaning methods according to the actual situation of users, and professional technicians carry out operation and testing to ensure the normal use of ozone generator and ensure production safety.

Personal service

Our company can make customized design according to customers' needs under different scenarios, and we provides professional consultation and after-sales service to meet the needs of different users for ozone generators.

PARTNERS

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