

GinkomO₃

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FOCUS ON ENVIRONMENTAL
PROTECTION AND INNOVATION



OZONE MANUFACTURING EXPERT
FOCUS ON OZONE R&D MORE THAN TEN YEARS

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Company profile



Ginkom founded in 2012, our company is a high-tech enterprise integrating development, sales and service. It is mainly engaged in the design, development and installation of space disinfection system, ozone generator, ultraviolet sterilizer and environmental protection engineering. The engineering system mainly includes: air purification system, space disinfection system, aquaculture purification system, ozone generator, printing and dyeing wastewater decolorization, waste water treatment and degradation of COD ultraviolet, water treatment and sterilization, pure water treatment equipment, etc.

Our company takes quality excellent, service in place, honest operation, quality first as the tenet, honesty as the foundation, customer first as the development direction of the company. Our company has independent R & D ability, dozens of technical engineers and after-sales service team, serving customers all over electric power, sugar manufacturing, machinery, chemical industry, textile, printing and dyeing, paper making, medicine, petroleum, food, aquaculture pure water treatment, sewage treatment, scientific research institutes and municipal environmental protection industries.

The company pays attention to personnel training and team building, adheres to the development concept of professional, dedicated, pragmatic and innovative, adheres to the customer-oriented and credit first service principles, with its own technical service advantages and standardized services, diligently solves the most urgent and practical needs of customers, and provides first-class solutions for customers with high-quality products and advanced technology.

GK 5~30 Small Series Ozone Generators Product description

The equipment is made of high-end technology, which is produced by corona discharge. The discharge chamber is composed of a tubular generator with dehydroxylated quartz structure. It has a unique backwater prevention design (Because the backwater can easily damage the machine). It can increase the service life of the machine. The circuit adopts modular design. The dielectric elements, connectors and pipes are all made of anti-oxidation devices, which are not easy to oxidize, with long service life and corona area Large, low temperature, so that the concentration of ozone greatly increased. Its performance index and practical effect are better than most of the same products currently on the market.



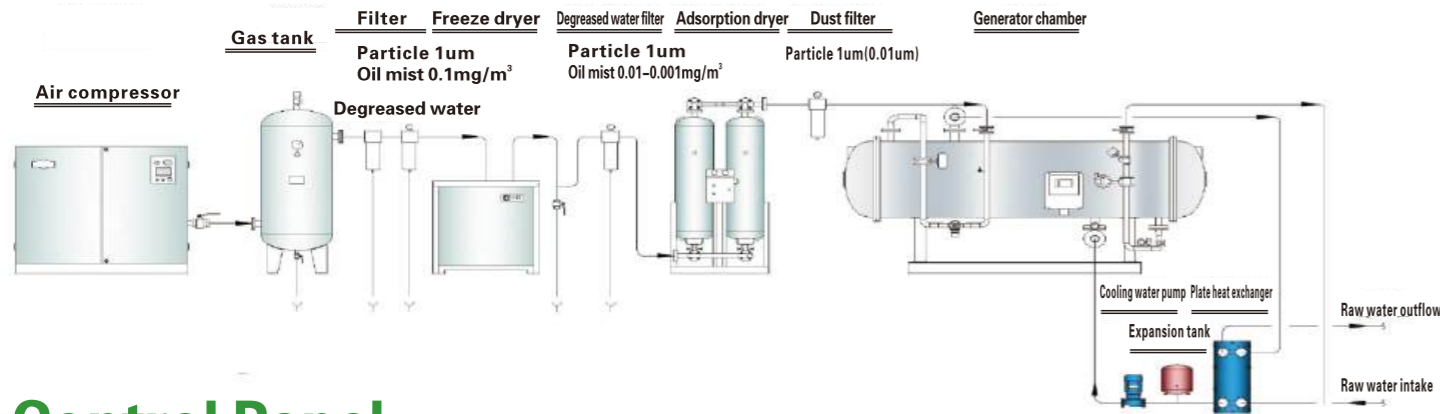
Product feature:

- * Adopt air and water cooling, adjustable ozone capacity.
- * The unique structure design makes the return water not easy to damage the ozone generator.
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Air source.

Specification:

Model Parameter	GK-5	GK-10	GK-15	GK-20	GK-25
Ozone production(g/h)	5	10	15	20	25
Cooling method	Air	Air	Water	Water	Water
Max. output concentration(mg/L)	15-25	15-25	15-25	15-25	15-25
Power(W)	85	140	280	360	450
Electrical power supply	Module power s	Module power s	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Air pump	Air pump	Air pump	Air pump	Air pump
Dimensions(mm)	280*200*480	280*200*480	500*380*855	500*380*855	500*380*855
Weight(kgs)	5	5	20	20	25

Air source ozone generator process flow chart



Control Panel



1. Air source switch: control the operation of electric fan and air source on the machine.
2. Ozone switch: controls the power board to supply power to the discharge tube.
3. Time control switch: adjustable working hours.
4. Electrical parameter meter: can display the working voltage of the ozone generator.

- Turn on machine operation**
1. Set the potentiometer to zero before turning on the machine.
 2. Turn on the air supply switch.
 3. Turn on the ozone switch.
 4. Just set the time control switch to the time period you want.



GK-5~10



GK-5~10

GK 40~90 Middle Series Ozone Generators Product description

The equipment is made of high-end technology, which is produced by corona discharge. The discharge chamber is composed of a tubular generator with dehydroxylated quartz structure. It has a unique backwater prevention design (Because the backwater can easily damage the machine). It can increase the service life of the machine. The circuit adopts modular design. The dielectric elements, connectors and pipes are all made of anti-oxidation devices, which are not easy to oxidize, with long service life and corona area Large, low temperature, so that the concentration of ozone greatly increased. Its performance index and practical effect are better than most of the same products currently on the market.



Product feature:

- * Adopt air and water cooling, adjustable ozone capacity.
- * The unique structure design makes the return water not easy to damage the ozone generator.
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Air source.

Specification:

Model Parameter	GK-40	GK-50	GK-60	GK-70	GK-80	GK-90
Ozone production(g/h)	40	50	60	70	80	90
Cooling method	Water	Water	Water	Water	Water	Water
Max. output concentration(mg/L)	15-25	15-25	15-25	15-25	15-25	5-25
Power(W)	520	580	680	750	840	1020
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Compressor	Compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)	500*330*1025	500*330*1025	600*400*1170	600*400*1170	600*400*1170	600*400*1170
Weight(kgs)	25	35	35	35	35	36

GK 100~200 Big Series Ozone Generators

Product description

The equipment is composed of multiple ozonators, and the internal shape is close to the honeycomb shape, so it is called honeycomb ozonators. The dielectric material of ozonators is high-purity dehydroxylated quartz tube. The dehydroxylation is less than 10 ppm, the SiO₂ content is more than 98%, the temperature resistance is 1600 degrees, and the withstand voltage is 30 KV, which is far higher than the peak high-voltage 7 KV produced by the matched high-frequency high-voltage power supply and will not be destroyed by high-voltage breakdown. Inner electrode: 316 stainless steel alloy, with better corrosion resistance than 304 stainless steel. Under the condition of high voltage and high frequency continuous discharge, it will not be oxidized, blackened, rusted and deformed after 5 years of use; discharge gap: 0.25mm-1mm; sealing material: polytetrafluoroethylene plate plus fluorine rubber ring. It is resistant to oxidation and acid and alkali, with a service life of up to 8 years.



GK-15-30



GK-40-50



Operation steps

1. Plug in the power cord and connect to AC220V power supply.
2. Connect the cooling water to the cooling water inlet of the machine, and connect the cooling water outlet to a suitable location for discharge.
3. Adjust the potentiometer to 100, then turn the main switch to "local" or "remote" (remote needs to short-circuit the external control line to start) and wait for the machine to start.
4. After confirming that ozone is discharged from the ozone outlet, turn the main switch to "stop".
5. Connect the ozone tube to the ozone outlet of the machine, and connect the other end to the place where the ozone is used.
6. Turn the main switch to "local" or "remote" (remote needs to short-circuit the external control line to start) and wait for the machine to start.



GK-60-70-80-90

Product feature:

- * Adopt air and water cooling, adjustable ozone capacity.
- * The unique structure design makes the return water not easy to damage the ozone generator.
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Air source.

Specification:

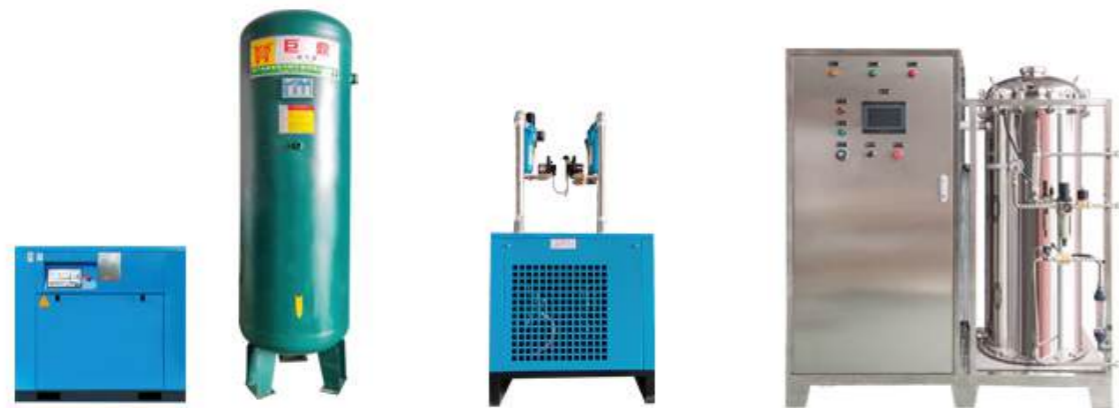
Model	GK-100	GK-120	GK-150	GK-200
Ozone production(g/h)	100	120	150	200
Cooling method	Water	Water	Water	Water
Max. output concentration(mg/L)	15-25	15-25	15-25	15-25
Power(W)	2200	2200	2500	4200
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)	900*480*1300	900*480*1300	900*480*1300	900*480*1300
Weight(kgs)	58	58	58	76

Products pictures



Specification:

Model	GK-300	GK-400	GK-500	GK-600
Parameter				
Ozone production(g/h)	300	400	500	600
Cooling method	Water	Water	Water	Water
Max. output concentration(mg/L)	15-25	15-25	15-25	15-25
Power(W)	6000	8000	9000	11000
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)	900*480*1300	900*530*1400	900*530*1400	900*530*1400
Weight(kgs)	95	120	135	135



GK-1000 Air compressor+Gas tank +Freezer dryer+Ozone host

GK-Y Small Series Ozone Generators Product description

The equipment uses oxygen in the air as the air source to produce ozone with high ozone concentration. The ozone discharge chamber is a patented technology of our company. The inner electrode is made of stainless steel and adopts high concentration ozone tube. The whole discharge chamber adopts full sealing technology, which is reliable in operation. Power supply unit (PSU) is the core technology of this series of models, including two processes of frequency conversion and voltage rise, with automatic soft start function, strong load capacity and multiple protection functions, high efficiency and stability.



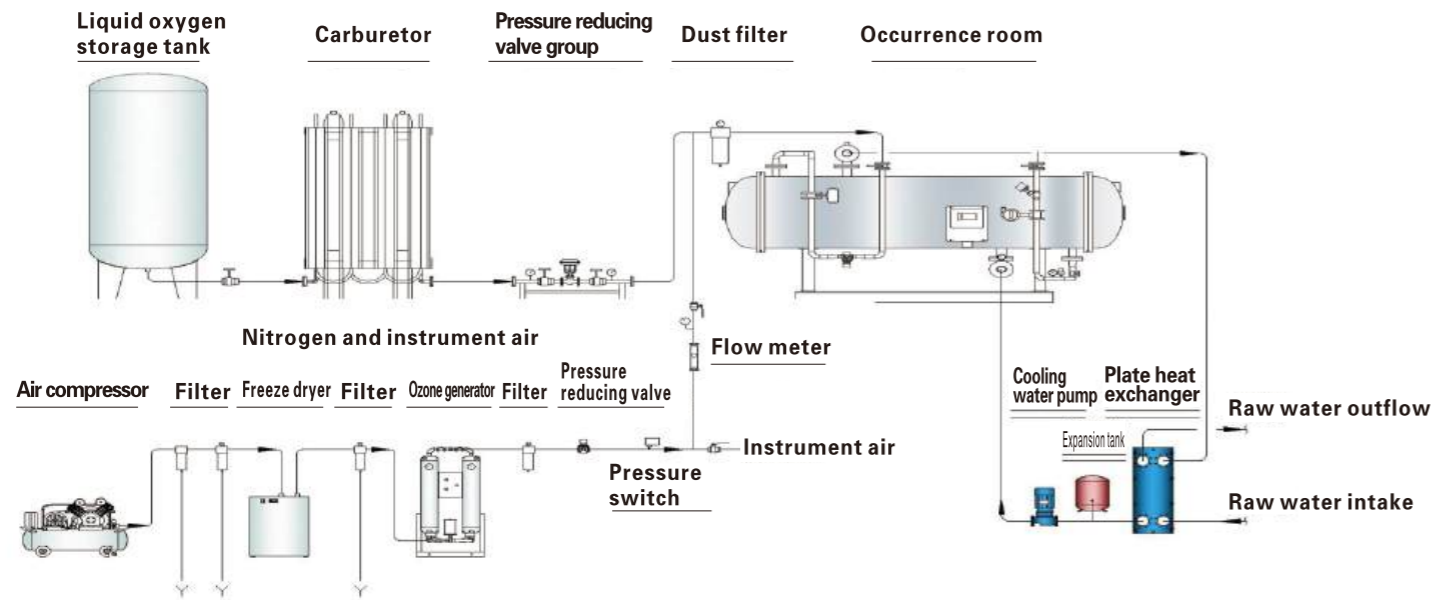
Product feature:

- * Adopt air and water cooling, adjustable ozone capacity.
- * The unique structure design makes the return water not easy to damage the ozone generator.
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Oxygen source.

Specification:

Model	GK-Y-5	GK-Y-10	GK-Y-15	GK-Y-20	GK-Y-30
Parameter					
Ozone production(g/h)	5	10	15	20	30
Cooling method	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling
Max. output concentration(mg/L)	80-120	80-120	80-120	80-120	80-120
Power(W)	420	470	520	570	750
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Air pump	Air pump	Air pump	Air pump	Air pump
Dimensions(mm)	500*380*855	500*380*855	500*380*855	500*380*855	500*380*855
Weight(kgs)	30	30	30	30	40

Oxygen source ozone generator process flow chart



GK-Y-5-50



GK-Y-5-10-15-20-30



GK-Y-40-50

GK-60-70-80-100A

GK-Y-5-600



GK-Y-100B-120-150-200-300



GK-Y-400-500-600

GK-Y Middle Series Ozone Generators

The equipment uses oxygen in the air as the air source to produce ozone with high ozone concentration. The ozone discharge chamber is a patented technology of our company. The inner electrode is made of stainless steel and adopts high concentration ozone tube. The whole discharge chamber adopts full sealing technology, which is reliable in operation. Power supply unit (PSU) is the core technology of this series of models, including two processes of frequency conversion and voltage rise, with automatic soft start function, strong load capacity and multiple protection functions, high efficiency and stability.



Product description:

The equipment uses oxygen in the air as the air source to produce ozone with high ozone concentration. The ozone discharge chamber is a patented technology of our company. The inner electrode is made of stainless steel and adopts high concentration ozone tube. The whole discharge chamber adopts full sealing technology, which is reliable in operation. Power supply unit (PSU) is the core technology of this series of models, including two processes of frequency conversion and voltage rise, with automatic soft start function, strong load capacity and multiple protection functions, high efficiency and stability.

Product feature:

- * Adopt air and water cooling, adjustable ozone capacity
- * The unique structure design makes the return water not easy to damage the ozone generator
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Oxygen source.

Specification:

Parameter	Model	GK-Y-40	GK-Y-50	GK-Y-60	GK-Y-70	GK-Y-80
Ozone production(g/h)		40	50	60	70	80
Cooling method		Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling
Max. output concentration(mg/L)		85-120	85-120	85-120	85-120	85-120
Power(W)		850	950	1430	1480	1510
Electrical power supply		Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor		Compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)		500*330*1025	500*330*1025	600*450*1170	600*450*1170	600*450*1170
Weight(kgs)		40	40	54	54	54



GK-Y-300-400G oxygen generator + ozone host



GK-Y-600G Air compressor+Gas tank +Freezer dryer +5m³ Ozone generator+Ozone host

Specification:

Model Parameter	GK-Y-100	GK-Y-120	GK-Y-150	GK-Y-200	GK-Y-300
Ozone production(g/h)	100	120	150	200	300
Cooling method	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling
Max. output concentration(mg/L)	85-120	85-120	85-120	85-120	85-120
Power(W)	2500	2500	3000	5000	6800
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)	900*480*1300	900*480*1300	900*480*1300	900*480*1300	900*480*1300
Weight(kgs)	73	73	73	73	87

GK-Y Big Series Ozone Generators Product description:

The equipment uses oxygen in the air as the air source to produce ozone with high ozone concentration. The ozone discharge chamber is a patented technology of our company. The inner electrode is made of stainless steel and adopts high concentration ozone tube. The whole discharge chamber adopts full sealing technology, which is reliable in operation. Power supply unit (PSU) is the core technology of this series of models, including two processes of frequency conversion and voltage rise, with automatic soft start function, strong load capacity and multiple protection functions, high efficiency and stability.



Product feature:

- * Adopt air and water cooling, adjustable ozone capacity.
- * The unique structure design makes the return water not easy to damage the ozone generator.
- * The generator unit has a long working life and can work continuously.
- * The shell is made of stainless steel.
- * Oxygen source.

Specification:

Model Parameter	GK-Y-400	GK-Y-500	GK-Y-600	GK-Y-800	GK-Y-1000
Ozone production(g/h)	400	500	600	800	1000
Cooling method	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling	Air cooling + water cooling
Max. output concentration(mg/L)	85-120	85-120	85-120	85-120	85-120
Power(W)	2500	2500	3000	5000	6800
Electrical power supply	Adjustable power	Adjustable power	Adjustable power	Adjustable power	Adjustable power
Air pump / compressor	Compressor	Compressor	Compressor	Compressor	Compressor
Dimensions(mm)	950*530*1385	950*530*1385	950*530*1385	1170*600*1620	1170*600*1620
Air flow(L/Min)	70L	80L	5m ³	8m ³	8m ³

GK-Y-1000-2000



GK-Y-1000-3000G/ Air compressor+Gas tank + Freezer dryer+ Ozone generator+Ozone host



GK-Y-4000-5000G/ Air compressor+Gas tank +Freezer dryer+ Ozone generator+Ozone host

Model	Ozone production(g/h)			Air Flow(Nm ³ /h)			Power dissipation (kwh/kgO ₃)	Cooling water volume (m ³ /h)	Dimensions(mm)	Weight(T)	Air inlet/ outlet	Water inlet/ outlet
	8wt%	10wt%	12wt%	8wt%	10wt%	12wt%						
	117mg/l	148mg/l	178mg/l	117mg/l	148mg/l	178mg/l						
GK-Y-2KG	2.2	2	1.6	21.7	13.6	9.7	6-8	≤5	1800*600*2000	0.92	DN20	DN32
GK-Y-3KG	3.3	3	2.4	32.5	20.4	14.7	6-8	≤6	1800*600*2000	1.35	DN25	DN40
GK-Y-4KG	4.4	4	3.2	43.2	27.1	19.2	6-8	≤8	2000*800*2000	1.6	DN25	DN40
GK-Y-5KG	5.5	5	4	54.0	33.9	24.3	6-8	≤10	2000*800*2000	1.8	DN32	DN50

GK-BG Series Ozone Generators

This series of ozone generators have the functions of purifying air, sterilizing, disinfecting, preventing bacteria, removing mildew, smoke, stinking formaldehyde and other harmful air and peculiar smell. They are suitable for all kinds of places without occupying space.

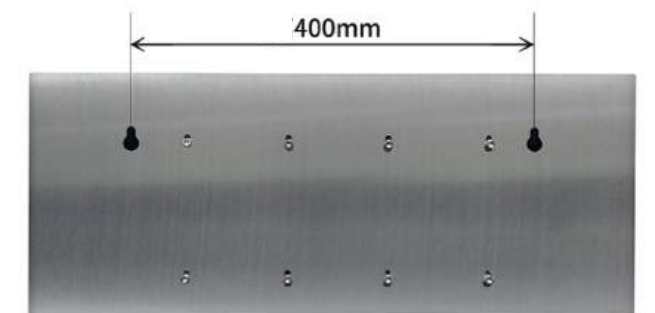
Product description:

This product is suitable for various places, such as hotels, hotels, KTV, nightclubs, clubs, bars, Internet cafes, game rooms and other crowded entertainment places, stations, shopping malls, office buildings and other places. It can effectively sterilize and remove viruses, purify the air, and it is also suitable for decoration. It can remove benzene, formaldehyde and other toxic and harmful volatile substances in the air during decoration. The product can purify the air, inhibit various bacteria, pathog anisms, and effectively prevent the occurrence of diseases.

Specification:

Model	GK-BG-5G	GK-BG-10G	GK-BG-15G	GK-BG-20G	GK-BG-30G
Ozone production(g/h)	5	10	15	20	30
Cooling method	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
Max. output concentration(mg/m ³)	15-25	15-25	15-25	15-25	15-25
Power(W)	110	140	170	200	230
Electrical power supply	Module power supply	Module power supply	Module power supply	Module power supply	Module power supply
Applicable area	100m ³	200m ³	300m ³	400m ³	600m ³
Dimensions(mm)	600*140*230	600*140*230	600*140*230	600*140*230	600*140*230
Weight(kgs)	5.2	5.2	5.2	5.3	5.3

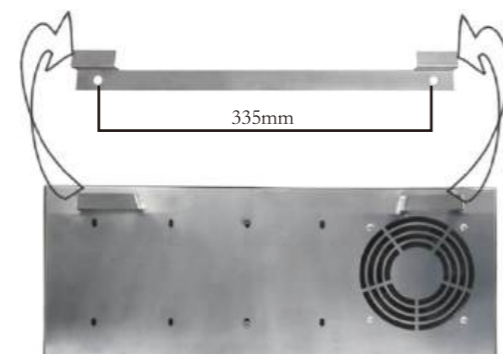
GK-BG-5G-40G



Model Parameter	GK-BG-40G	GK-BG-50G	GK-BG-60G	GK-BG-80G
Ozone production(g/h)	40	50	60	80
Cooling method	Air cooling	Air cooling	Air cooling	Air cooling
Max. output concentration(mg/m ³)	15-25	15-25	15-25	15-25
Power(W)	260	290	320	380
Electrical power supply	Module power supply	Module power supply	Module power supply	Module power supply
Applicable area	800m ³	800m ³	900m ³	900m ³
Dimensions(mm)	600*140*230	600*140*230	600*140*230	600*140*230
Weight(kgs)	5.8	5.9	5.9	5.9



GK-BG-5G-40G



GK-WZ-YD Series Ozone Generators

This series of ozone generators have the functions of purifying air, sterilizing, disinfecting, preventing bacteria, removing mildew, smoke, stinking formaldehyde and other harmful air and peculiar smell. They are suitable for all kinds of places without occupying space.

Product description:

This product is suitable for various places, such as hotels, hotels, KTV, nightclubs, clubs, bars, Internet cafes, game rooms and other crowded entertainment places, stations, shopping malls, office buildings and other places. It can effectively sterilize and remove viruses, purify the air, and it is also suitable for decoration. It can remove benzene, formaldehyde and other toxic and harmful volatile substances in the air during decoration. The product can purify the air, inhibit various bacteria, pathogens and microorganisms, and effectively prevent the occurrence of diseases.

Specification:

Model Parameter	GK-WZ-YD-5G	GK-WZ-YD-10G	GK-WZ-YD-20G	GK-WZ-YD-30G	GK-WZ-YD-40G
Ozone production(g/h)	5	10	20	30	40
Cooling method	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
Max. output concentration(mg/m ³)	15-25	15-25	15-25	15-25	
Power(W)	110	140	200	230	260
Electrical power supply	Module power supply	Module power supply	Module power supply	Module power supply	Module power supply
Applicable area	100m ³	200m ³	300m ³	400m ³	500m ³
Dimensions(mm)	300*230*590	300*230*590	300*230*590	300*230*590	300*230*590
Weight(kgs)	8.6	8.7	8.8	8.9	9

GK-WZ-YD-5G-40G



GK-KJXD Series Ozone Generators

This series of ozone generators have the functions of purifying air, sterilizing, disinfecting, preventing bacteria, removing mildew, smoke, stinking formaldehyde, etc., which are suitable for various places.

Product description:

This product is suitable for various places, such as hotels, hotels, KTV, nightclubs, clubs, bars, Internet cafes, game rooms and other crowded entertainment places, stations, shopping and remove viruses, purify the air, and it is also suitable for decoration. It can remove benzene, formaldehyde and other toxic and harmful volatile substances in the air during decoration. The product can purify the air, inhibit various bacteria, pathogens and microorganisms, and effectively prevent the occurrence of diseases.

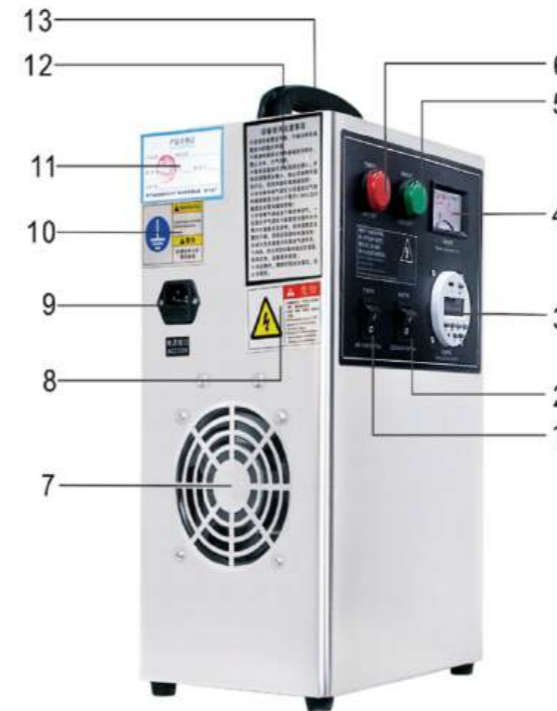
Specification:

Model Parameter	GK-KJXD-5	GK-KJXD-10	GK-KJXD-15	GK-KJXD-20	GK-KJXD-30	GK-KJXD-40
Ozone production(g/h)	5	10	15	20	30	40
Cooling method	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
Max. output concentration(mg/m ³)	15-25	15-25	15-25	15-25	15-25	15-25
Power(W)	90	120	150	180	210	240
Electrical power supply	Module power supply	Module power supply	Module power supply	Module power supply	Module power supply	Module power supply
Applicable area	50m ³	100m ³	150m ³	200m ³	300m ³	400m ³
Dimensions(mm)	350*200*220	350*200*220	350*200*220	350*200*220	350*200*220	350*200*220
Weight(kgs)	3.2	3.4	3.6	3.8	4	4.2

GK-KJXD-5G-40G

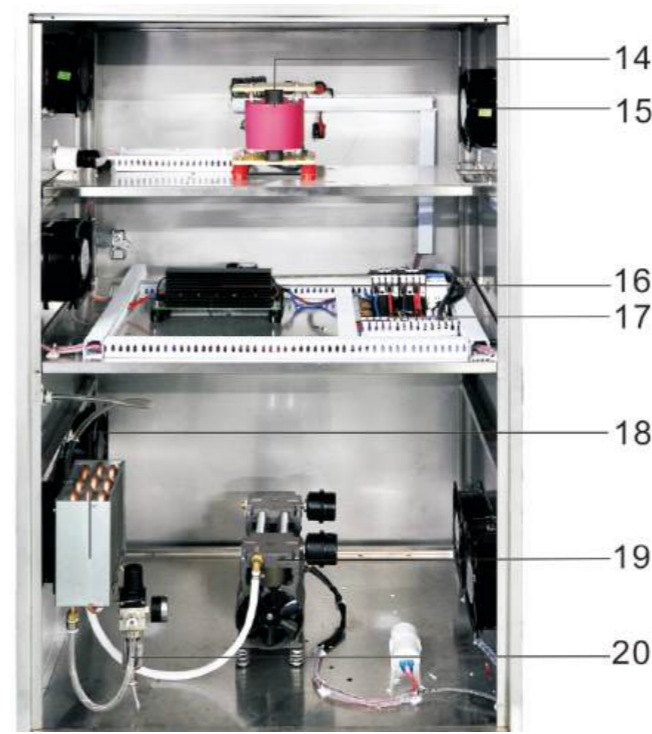


Product External Structure Diagram



- 1. Air source switch
- 2. Ozone switch
- 3. Microcomputer controller
- 4. Voltmeter
- 5. Ozone indicator
- 6. Air supply indicator
- 7. Cooling fan
- 8. Danger indication chart
- 9. Power socket
- 10. Power on indication diagram
- 11. Product Certificate
- 12. Precautions for equipment
- 13. Handle

Product internal drawing



- 14. High Voltage Transformer
- 15. Fans
- 16. Power supply panel
- 17. Relay
- 18. Condenser
- 19. Air pump
- 20. Oil water separator

Application And Function Of Ozone

As a strong oxidant, disinfectant, refining agent and catalyst, ozone is widely used in petroleum, chemical industry, textile, food, pharmaceutical, perfume, environmental protection and other departments. Ozone has been used in water treatment since 1905. It can solve the problem of drinking water quality. At present, most countries in Japan, Europe and the United States have applied ozone technology to medical devices, tableware sterilization and so on. Ozone, as an oxidant, has been gradually applied in textile, printing and dyeing, papermaking, deodorization and decolorization, bleaching, aging technology treatment, bioengineering and other fields. The biggest characteristic of ozone is gas (composed of three oxygen atoms), and it has very strong oxidation ability. Its oxidation ability is next to fluorine but higher than chlorine, and it has high efficiency and harmless residue, so it has a wide range of application fields.

The functions of ozone are numerous, and the main ones are as below.

Sterilization: can quickly and thoroughly eliminate the virus and bacteria in the air and water. According to the test report of the academic unit, when the ozone concentration in the water is 0.05ppm, 10 To 20 minutes, the killing rate of bacteria is more than 99%. It can be used for sterilization and disinfection of food storage rooms that need sterilization and disinfection, such as water supply, swimming pool water and beverage water. Schools, kindergartens, offices, food processing plants, pharmaceutical factories and other air purification;sterilization and disinfection of appliances, hospital sewage, domestic sewage and so on.

Detoxification: due to the development of industry and Commerce and high material civilization, life is full of various harmful substances, such as carbon monoxide, pesticides, heavy metals, fertilizers, etc After ozone treatment, organic matter, odor, pigment, etc. will decompose into harmless and safe substances for human body.

Fresh keeping: in the United States, Japan, Europe and the United States and other countries, ozone has been widely used in the storage of various foods, which can prolong the storage period of food and reduce the rate of spoilage, so as to reduce losses and improve profits.

Bleaching: due to the strong oxidation of ozone, it is a strong bleaching agent, which can be used in laundry, food and wastewater treatment.
Deodorization: due to the strong oxidation and decomposition ability of ozone, it can quickly and thoroughly eliminate all kinds of peculiar smell in air and water. It can be used for fecal treatment, decolorization and deodorization of water supply and drainage, deodorization of farms, purification and deodorization of sewers,etc.

Ozone Disinfection Technology Application Field



Ozone disinfection of aquaculture



Degradation of ozone pesticides in fruits and vegetables



Swimming pool ozone sterilization



Ozone treatment of drinking water



Ozone sterilization of poultry industry



Ozone treatment of living sewage



Ozone treatment of industrial waste gas



Hospital ozone sewage treatment



Others

Our Professional And Technology Create The Clean and Safe Environment For You



Pure Water Treatment

At present, in the world, purified water, natural water(mountain spring water, mineral water, groundwater, etc.) have been made by filtration and other processes, and ozone disinfection has been widely used. In the application of ozone purification of tap water, the solubility value of 0.4mg/l in the international standard is kept for 4 minutes, ie. the CT value is 1.6. The following table is the reference value:

Category	Quality water supply	Purified water	Natural water	Tap water	Pool water
Ozone concentration in water(mg/L)	0.1~0.3	0.2~0.4	0.4~0.6	0.4	0.2
Ozone addition(g/T)	1~2	5~10	2~3	2~3	1~2

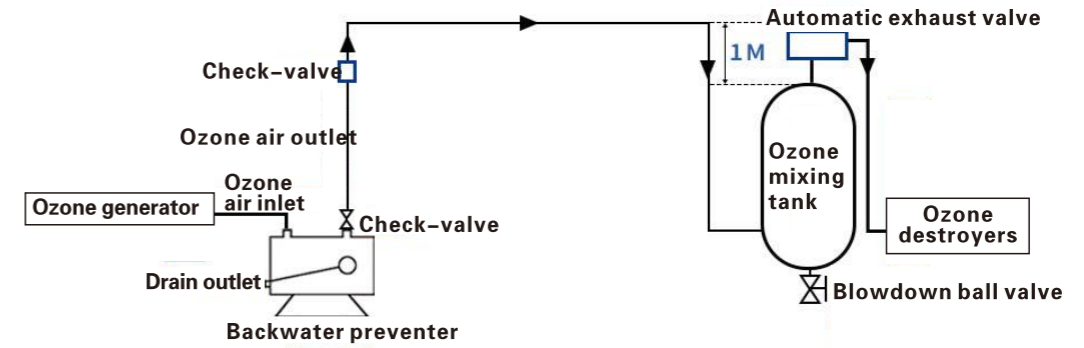
Equipment Optional Configuration Table

Oxygen generator with oil free compressor,8T water than to other supporting oil free compressor or DH-A air compressor and cold and dry machine.

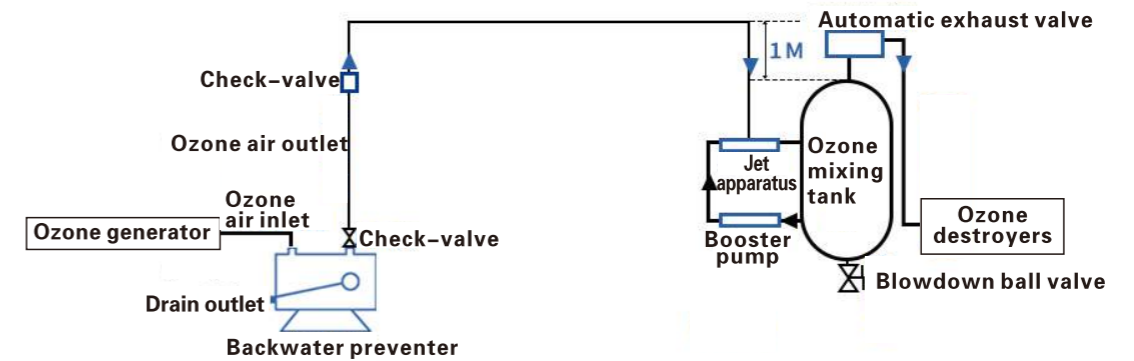
Category	Model	Oxygen generator	Air water jet mixer	Diameter * height of mixing tower	Stainless steel pressure pump	Air dryer m3/min	Oil free air compressor MPa
1~2m³/h water	GK-5G-10G	1L, 2L	1/2"	/	375W, 550W	/	/
3~4m³/h water	GK-15G-20G	3L, 5L	1/2" , 3/4"	0.3*4-5m	550W	Option	Option
5~6m³/h water	GK-25G-30G	5L, 6L	3/4" , 1"	0.3*5-6m	750W	Option	Option
7~8m³/h water	GK-30G-40G	6L, 8L	1"	0.8*6m	750W	Option	Option
10m³/h water	GK-50G	10L	1"	0.8*6m	750W, 1.1KW	1.0	0.7
12m³/h water	GK-60G	12L	1"	0.8*6m	750W, 1.1KW	1.0	0.7, 1.0
15m³/h water	GK-60G-80G	12L, 16L	1" , 1.5"	/	1.1KW	1.0	1.0
20m³/h water	GK-100G	20L	1.5"	/	1.1KW	1.0	1.0
30m³/h water	GK-150G	30L	2"	/	1.1KW	1.0	1.0
50m³/h water	GK-200G-250G-300G	40L, 50L	2" , 2" x 2	/	1.1KW	1.5	1.0
100m³/h water	GK-500G	80L, 100L	2" x 2	/	1.5KW*2	2.5	1.0

- Remark:
1. All can choose bottled oxygen source
 2. When the water is more than 100T, the configuration shall be selected according to the demand.

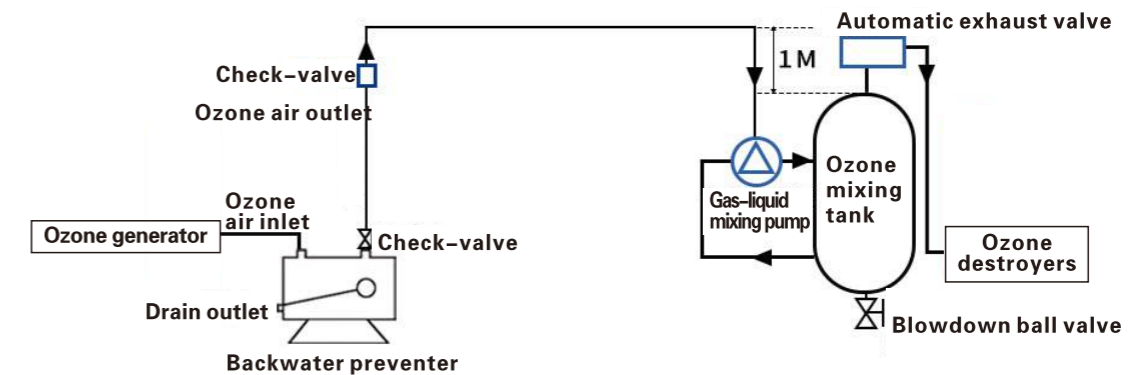
Backwater preventer – precautions



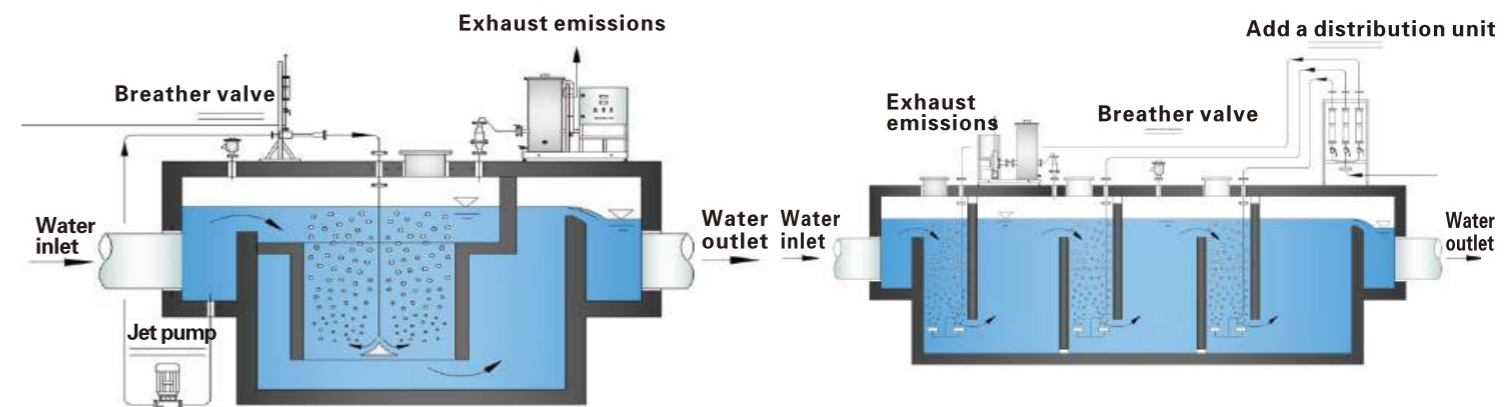
Jet apparatus – Precautions



Air and liquid mixing pump–precautions



Schematic diagram of ozone wastewater advanced treatment



Sewage Treatment

Industrial wastewater treatment: ozone system can be almost used in all kinds of wastewater. The process of wastewater oxidation depends on the types of wastewater from different industries.

Treatment process categories: chemical process, chemical/biological process and chemical/biological /physical process.

Ozone application: indoor pre-treatment for cycling water, water to be indirectly discharged to public water facilities, or post treatment for water to be directly discharged to river and bay.

Compound removal: Oxidation of harmful or colored substance, reduce comprehensive parameters (COD or DOC). Normally, the process combines ozone oxidation and biodegradation, namely O₃-biological treatment -O₃, to lower the ozone dosage and operation cost.

Disinfection

Before discharging to the receiving water, wastewater requires disinfection treatment to meet the water quality standard. For example, if the wastewater is to be used for irrigation, it will require disinfection with ozone dosage even more than the one in drinking water. The most common disinfectant is chlorine and chlorine dioxide, however, as it is well known that chlorine disinfection can cause halide, especially the trihalomethanes (THMs). Because of the undesired by-product from chlorine, the ozone application is becoming more and more popular. When making the chemical disinfection design, the CT concept (concentration of free disinfectant: C multiply contact time: T) in Chick-Watson law is often used. Substantial past and recent researches have proved that molecular ozone is very effective disinfectant, having better effect than the free chlorine and chlorine dioxide, and it will be widely used in the future.

Oxidation Of Inorganic Compounds

In order to destroy the toxic substances in waste water, ozone oxidation of inorganic compounds is mainly limited to the removal of cyanide. Cyanide is frequently used in the electrolysis process of metal processing and electronic industry. It can form as free CN⁻, but more often it combines with iron or copper. It exists in the form of complex. When the concentration of cyanogen ion is higher than 5mg / L, the reaction speed of ozone and free cyanogen ion is very fast, which indicates that the reaction may be controlled by mass transfer process, and the attack effect of complex cyanide on molecular ozone is very stable. Nitrite (NO₂⁻) and sulfide (H₂S/2-) can be removed by ozonation. These two substances react with ozone very fast.

Oxidative Decomposition Of Organic Compounds

Most of the substances that cause problems in industrial wastewater are organic substances. Generally, the mixture with different substances and concentrations (from mg / L to g / L) should be treated. The main tasks of wastewater ozone treatment are:

Conversion of toxic compounds

In order to improve the subsequent biodegradation performance, the refractory components of dissolved Organic carbon (DOC) were partially oxidized.

Remove chromaticity

Similar to drinking water treatment, it is difficult to mineralize DOC completely by economic method. It is suggested to use ozone oxidation combined with other processes. The success of the process is measured by total DOC removal. Ozonation systems have been used to treat wastewater, such as landfill leachate, textile, pharmaceutical and chemical industry wastewater. The main pollutants in these waters are refractory organics, which can be classified as follows:

Humus (brown or yellow) and adsorbable organic halide (AOX) in Landfill Leachate.

The non-ferrous (poly) aromatic cluster compounds in textile wastewater are often mixed with a large number of metal ions Cu, Ni, Zn, Cr.

Toxic or insecticidal substances (e.g. pesticides) produced by the pharmaceutical and chemical industries.

Cosmetic and other industrial surfactants

The most common running problems in COD and colored matter of pulp and papermaking wastewater in the wastewater oxidation system are foaming, forming calcium oxalate, carbonic acid and iron hydroxide (Fe (OH)₃). They easily block reactors, pipes or valves, and cause damage to pumps.

Sewage Oxidation Quality, Water Quantity Analysis

Since the COD, BOD, SS, colloid, and bacteria from residential wastewater, are the main items which may exceed the standard, a sampling analysis and report of these items should be made accordingly.

Design Criteria

After the water treatment, the COD, BOD, SS, bacteria, dissolved solids should meet the following standard of water recycling according to CJ25.1-89 (Chinese standard) :

Item	Water quality index
Turbidity	10
Dissolved solids (mg/L)	1200
SS (mg/L)	10
Chroma	30
Smell	No unpleasant feeling
PH	6~9
BOD5 (mg/L)	< 30
COD (mg/L)	< 100
Ammonia nitrogen (calculated by N)	20
Total hardness (calculated by CaCO3)	450
Chloride (mg/L)	350
Anionic Detergent (mg/L)	1
Fe (mg/L)	0.4
Mn (mg/L)	0.1
Total coliform, num/L	3

Design Basis

- (1) China environment protection 1995 and 2010 (Applicable in China) .
- (2) Wastewater sampling report.
- (3) Outdoors drainage criterion.
- (4) China residential reclaim water criterion CJ25.1-89 (Applicable in China) .

Design Principle

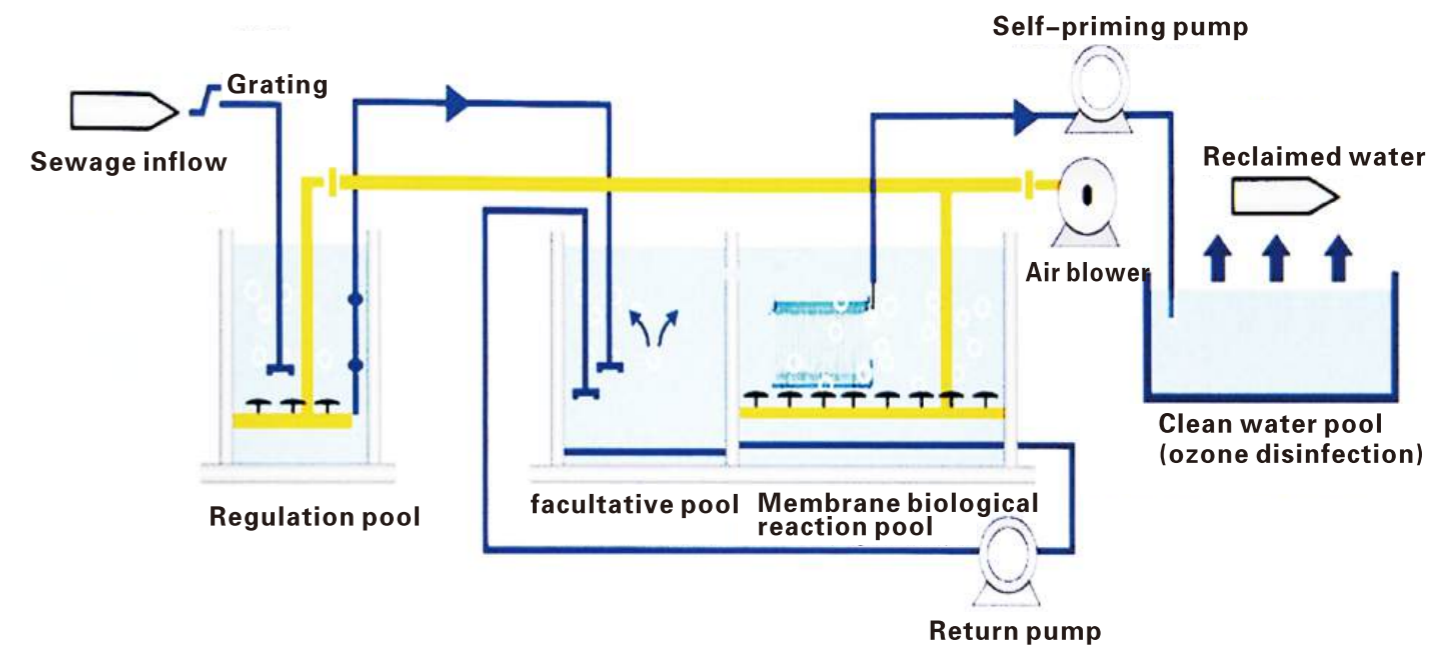
- (1) Design according to the country' s relevant regulation, according to the actual condition of the residential wastewater, meeting the requirement of low investment with good effect, low operation maintenance cost.
- (2) The wastewater after after treatment will meet the China residential reclaim water criterion CJ25.1-89 (Applicable in China) .

Brief Description Of Technical Process Flow

- (1) Seal membrane, biological reaction process for trash penetrating fluid treatment. Main process: membrane biological reaction+O3;
- (2) Biological contact oxidation process for trash penetrating fluid treatment。 Main process: Biological contact oxidation technology+inclined-plate sedimentation+O3.

Reclaimed water treatment process/advanced treatment

Contact oxidation-filtration process:



Application

Decolorization of livestock breeding Landfill leachate improves biochemical properties Dyeing wastewater decolorization



Functional Characteristics

Disinfection and sterilization

Ozone is effective disinfectant for microorganism, for example bacteria and mould. It kills virus by destroying the RNA and DNA and killing bacteria by destroying the cell membrane.

Remove odor

Ozone is effective for odor removal by decomposing the chemical substance of the odor.

Anti-mildew and fresh-keeping

Ozone gas has the advantage of preventing disinfection blind spot. It has the function of killing bacteria and mould, extending food preservation period and decomposes ethylene gas generated by vegetable and fruits.

Disinfect surfaces

In the pharmaceutical production process, we often need to disinfect the surface of raw materials, tools, packages, etc., often making disinfection cabinets, transfer windows, etc. The traditional method is to disinfect with ultraviolet rays. The problem is mainly that the disinfection is not complete. So if we use it in occasions with low requirements such as transfer windows. It is OK. But it is far less effective than ozone. "Disinfection technical specification" describes in detail that for the surface of the object immersed in ozone gas. The surface bacteria can be killed after contacting for a period of time.

Application of ozone in pharmaceutical industry

The pharmaceutical industry clean room is different from other industry clean rooms, especially the production of aseptic production preparations and raw materials drugs. It is necessary to not only control the aerosol particles in general suspended state in the air, but also control or microbe number, so as to provide the corresponding air cleanliness environment (aseptic room) necessary for the production of "aseptic drugs".

High efficient and thoroughness: a certain amount of ozone is produced during operation. Under relatively closed environment, it has uniform diffusion and good inclusiveness. It overcomes the shortcomings of many dead angles in ultraviolet sterilization, and can achieve the goal of allround, rapid and efficient disinfection and sterilization.

Convenient operation

According to the requirements of disinfection and sterilization and space volume, determine the model of ozone generator and the amount of ozone generated, and verify and check the number of bacteria. Set sterilization time. During sterilization, the ozone output port is directly placed in the sterile room or HVAC system, and 24-hour time controller can be selected. Set the power on / off time.

High cleanliness

Use ozone to disinfect and sterilize. After 30 minutes of shutdown, the remaining ozone will gradually decompose and reduce to oxygen, and improve the air quality, optimize working environment. So ozone is known as "green disinfectant".

No adverse effects on machinery/equipment

The concentration of ozone required for killing planktonic bacteria in the air is very low, generally only 2-4ppm is needed, and it sinks on the surface of the object. It only needs about 10-15 ppm to reduce colony (instead of traditional chemical fumigation). The concentration of ozone in the air is only 10-15 One in a million is one in 500 of the concentration of chemical fumigation. Due to the short time of sterilization process, proper use is not enough to construct. This is also of special concern to us. Economic use: air raw materials, low working energy consumption, transportation. It is famous for its low cost and good economic benefits.

Application of ozone in pharmaceutical factory

The application of ozone in the pharmaceutical industry is mainly in the following aspects: first, the sterilization and disinfection of GMP workshop and equipment, surface of instruments; second, the sterilization and disinfection of central air conditioning system; third, the sterilization and disinfection of dressing rooms and work clothes; fourth, the sterilization and purification of production and processing water; fifth, the preparation of high concentration ozone disinfectant.

Production Of GMP Workshop Air Sterilization

According to the different levels of GMP workshop, select the suitable model accordingly		
Workshop purification class	Maximum allowable bacteria/m ³	Application
Class 300,000	1000	Pills and particle package workshop
Class 100,000	500	Injection preparation workshop
Class 10,000	100	Small Volume injection filling workshop the final processing of the pack age material with direct contact to medicine
Class 100	5	Large volume injection filling room

GMP workshop or food purification level selection

Type	Concentration ppm	Ozone per m ³ per hour mg / h
Home office	1~2	2.5~5
General place	2~5	5~10
Cold storage (Class 300000)	6~10	5~10
Food and medicine workshop (Class 100000)	15~20	10~20
Hospital sterile ward (Class 10000)	30~40	30~50
Food and medicine laboratory (Class 100)	60~80	40~60

Ozone generator model selection recommendations

Model Class	SQ-5G	SQ-10G	SQ-15G	SQ-20G	SQ-30G
300,000	80-120m ³	120-250m ³	180-350m ³	300-500m ³	400-750m ³
100,000	50-70m ³	80-120m ³	100-175m ³	130-250m ³	200-370m ³
10,000	20-35m ³	40-60m ³	40-90m ³	70-125m ³	80-190m ³
100	6-12m ³	15-30m ³	18-45m ³	40-60m ³	60-100m ³

Powerful ozone generator GK series adopts advanced high temperature quartz glass discharge unit, the following table:

Model Class	300,000	100,000	10,000	100
SQ-20G	600-1000m ³	300-500m ³	130-250m ³	80-125m ³
SQ-25G	700-1250m ³	400-625m ³	160-310m ³	100-155m ³
SQ-30G	900-1600m ³	500-800m ³	250-400m ³	150-200m ³
SQ-50G	1500-2500m ³	800-1250m ³	300-625m ³	200-310m ³
SQ-80G	2200-4000m ³	1200-2000m ³	600-1000m ³	300-500m ³
SQ-100G	2800-5000m ³	1600-2500m ³	700-1250m ³	400-625m ³
SQ-150G	5000-7500m ³	2500-3750m ³	1200-1880m ³	600-940m ³
SQ-500G	16000-25000m ³	8000-12500m ³	4000-6250m ³	1600-3130m ³



Midea filter element production workshop disinfection

Infinitus workshop disinfection and sterilization



Biostime disinfection and sterilization in production workshop

Applications In Aquaculture

With the development of aquaculture, diseases caused by pathogenic microorganisms often occur in aquaculture, which is very harmful to aquaculture. In addition to strengthening the management of the breeding facilities, it has become an important topic to eliminate pathogenic microorganisms in the feeding water and the various instruments used. As a strong oxidant, disinfectant and catalyst, ozone is not only widely used in industry, but also has been successfully used in water disinfection, water quality improvement, disease prevention in aquaculture system and detoxification of red tide. Through the ozone sterilization device, the biological eggs can be sterilized, the breeding water can be sterilized, and the facilities can be sterilized, so as to prevent the invasion of pathogens. Ozone has a strong sterilization and water purification function, and is non-toxic and harmless. It is the most ideal bactericide and purifier in aquaculture and seedling production. It is of great significance to prevent fish, shrimp, sea urchin, river crab, turtle and other biological diseases, and improve the ecological environment of aquaculture.

In short, the price of complete sets of equipment is not high, and the secondary investment is not large, and various disinfectants and antibiotics can be saved, and a small amount of replacement can be reduced, The survival rate of seedlings raised by ozone can be increased by more than – times and a set of equipment can be used for several years, which can not only greatly save the cost of cultivation, but also cultivate green environmental protection food, which is relatively economic in all aspects. At present, ozone has been widely used in aquaculture in Japan, Europe and America, and chemical disinfectants such as chlorides are forbidden to be used in aquaculture, resulting in the high chloride content of products entering its market. There are reports in major newspapers and magazines.

Treatment model diagram of ozonidal feed water in freshwater aquaculture

Ozone dosage: add 1–2g per cubic meter of water(as shown in the figure, treat with 0.1–0.3mg/l concentration for 5–10min first, and then explode the gas to below 0.003mg/l ozone concentration before it can be used as feed water).



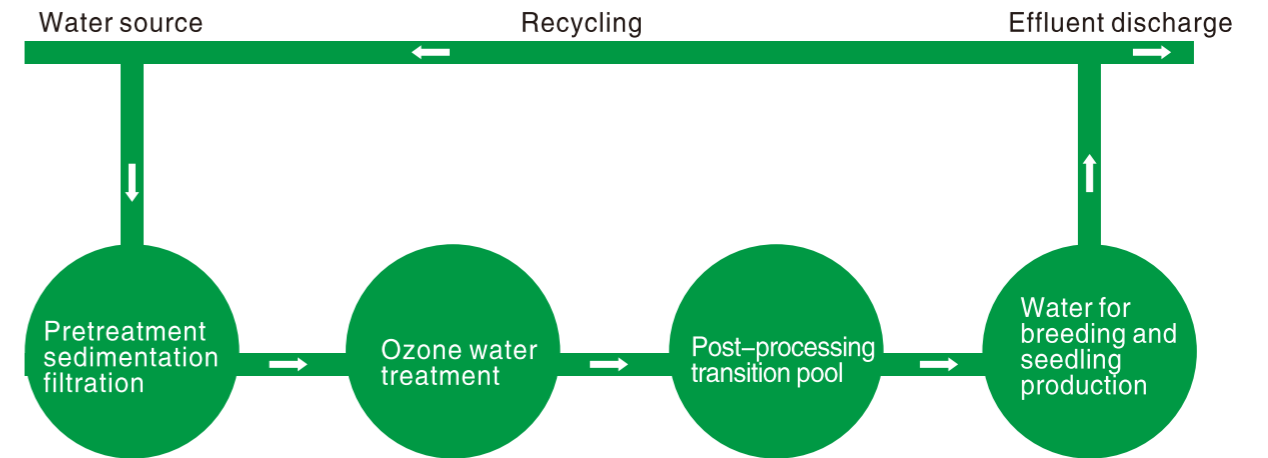
Treatment model diagram of ozonidal feed water in mariculture

Ozone dosage: Add 1–3g per cubic meter of water(as shown in the figure, treat with 0.1–0.5mg/l concentration for 5–10 minutes first, and then explode the gas to below 0.003mg/l ozone concentration before it can be used as feed water).



Note: for mariculture, ozone gas and strong oxidant generated shall be removed through activated carbon tank, etc., which cannot be equivalent to freshwater aquaculture system.

Application flow chart of ozone water treatment system in aquaculture



Ozone aquaculture project



Swimming Pool Disinfection

According to the national regulations or specifications according to the swimming pool and water recreation pool water supply and drainage design code. "Cecse4: 2002" is equipped with oxygen treatment device. In addition, some public swimming pools, high-end hotels and swimming pools in the community also use ozone technology. People's awareness of personal health protection has been further strengthened in the harm of SARS. It can be predicted that the technology of ozone treatment of swimming pool water will accelerate in the future.

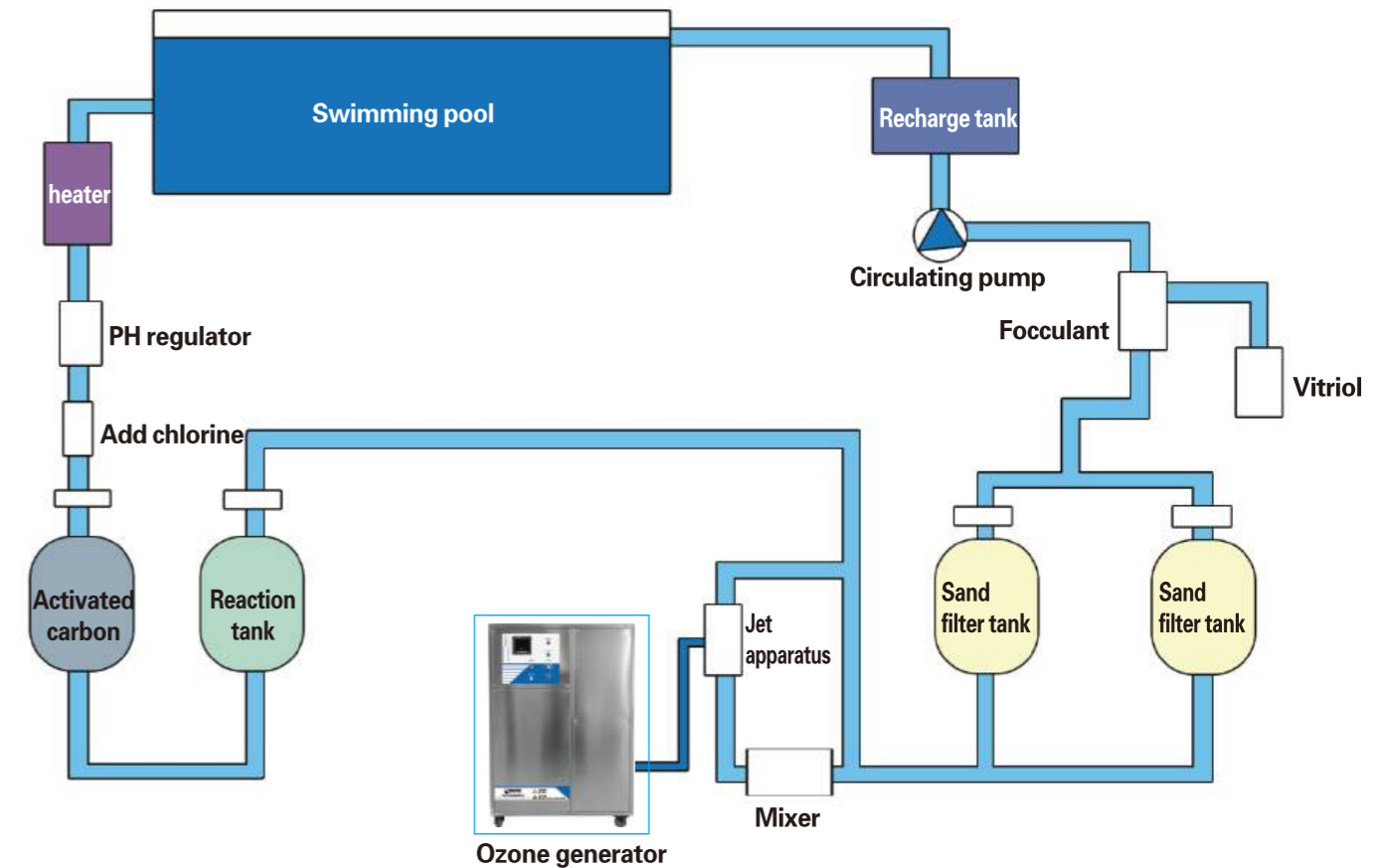
Swimming pools use ozone

Ozone and its secondary product, hydroxyl oxygen, have the strongest bactericidal and virus killing effects, which can effectively prevent the spread of bacteria and viruses. Experiments show that the same concentration of ozone is 600–3000 times more effective than chlorine in killing bacteria and viruses. Ozone is an internationally recognized environmental friendly green bactericide, which will not cause any secondary pollution to the environment, while chlorine will react with organic substances in the water to generate chloroform, chloroform, etc., which are generally recognized as carcinogenic mutagens. When people swim, these toxic substances will be absorbed by the human body (in the water, the human body can absorb 500 ml of water per hour). Chlorinated organic compounds in water can also irritate people's eyes and skin, resulting in red eyes and rashes. Ozone is the strongest oxidant, which can effectively decompose the corrosive substance in the water, oxidize the iron and ferocious ions in the water, decompose the tiny organism scattering light in the water, thus greatly improving the clarity of the water, making the water present a beautiful blue color, while chlorine preparation has no such effect. In order to make the water blue, the swimming pool using chlorine preparation often needs to add copper salt, which is extremely harmful to people. After adding chlorine preparation, the pH value of water will be changed, making people feel uncomfortable and need to add alkaline or acid substances to neutralize. Ozone is a neutral substance, which will not cause such problems.

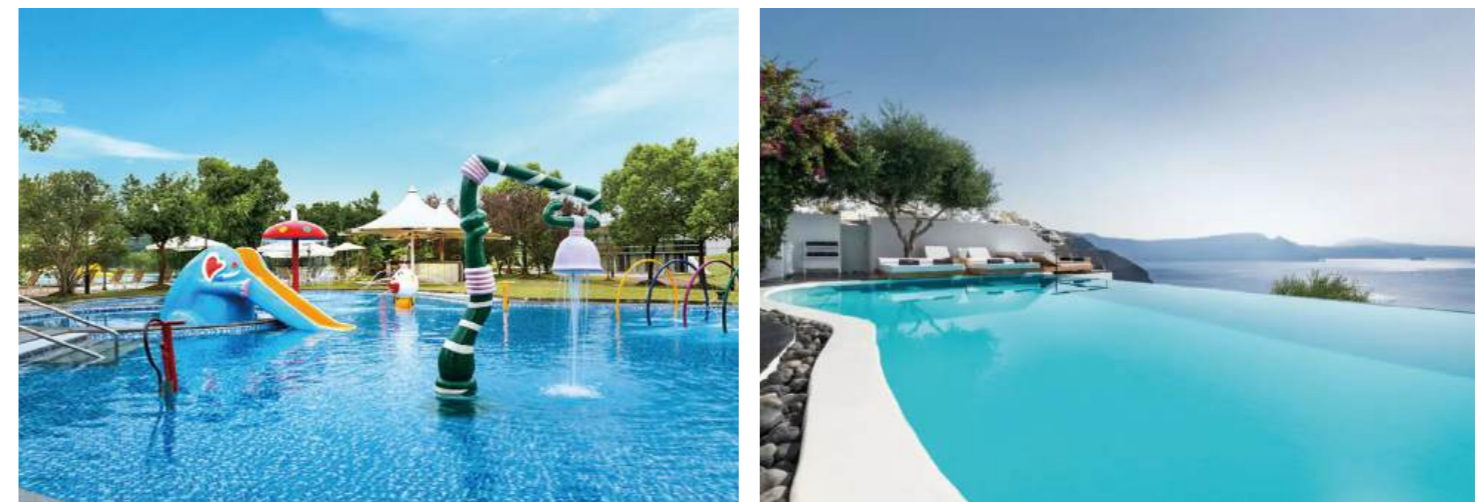
Application of ozone technology

The circulating water is sterilized with ozone. The dosing concentration is 0.5–1.0mg/l, and the general method is to combine the ozone water produced by the negative pressure in the jet with the main water flow through the water flow pressure, and react in the contact tank for no less than two minutes to achieve the purpose of sterilization. In order to ensure that the ozone in the air is lower than 0.1ppm, an active carbon decomposer is installed.

Product application diagram



Ozone pool disinfection project



Denim Wash

Oxygen decolorization has been widely used in coastal areas, which can help enterprises greatly reduce operating costs, reduce the cost of decolorization of original high temperature steam, and improve the economic benefits of enterprises. The equipment is easy to operate (only need to put the jeans into the special rotary machine for decolorization, and the color effect can be achieved by rotating for 5–15 minutes), without secondary pollution, easy to decolorize and natural color.

Jeans wash water using ozone

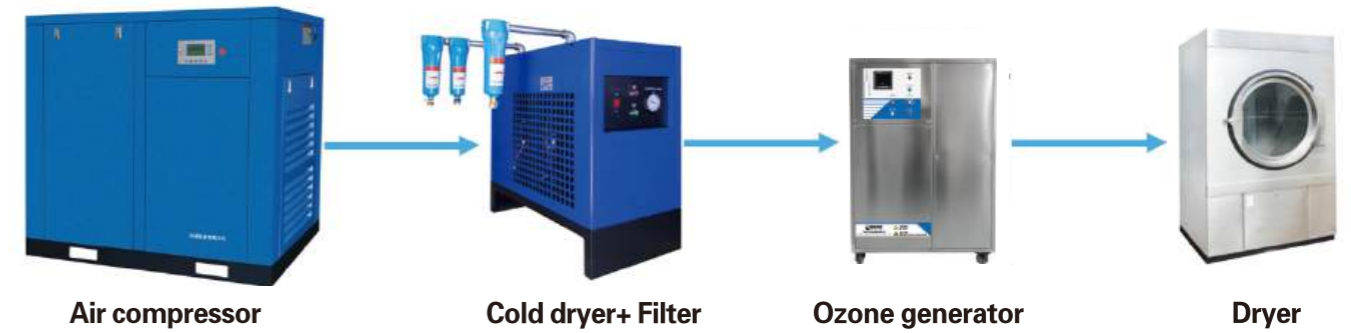
Ozone is a strong oxidizing gas with strong decolorization ability for all dyeing. Ozone can destroy the chromophore and auxiliary group of these dyes, so as to achieve the decolorization effect, but the effect of ozone on various organic dyes is different. The decolorization of 90% of basic dyes (such as basic black, basic Pinlan, basic scarlet, basic rose essence, basic brown, etc.) takes 5 minutes. For direct dyes, the dyes that can be not need to be colored by relevant chemical methods. It will take 5–10 minutes. In contrast, azo dyes are more easily oxidized. The ozone gas produced by the ozone generator is fully contacted with the clothes in the roller of the machine, so as to achieve the process of disinfection, oxidation prevention, decolorization, fixation, bleaching, pattern and so on.

Application of ozone technology

Comparison of advantages and disadvantages between ozonation and traditional methods:

1. It is economical to use sodium hypochlorite (the pomegranate degree is 18 degrees); it is not easy to control, and there are fibers with cloth damage. Health hazard: workers who often touch the products with their hands, sweat a lot on their palms, thin fingernails and hair fall off. This product has sensitizing effect. Chlorine released from this product may cause poisoning. It is corrosive, can cause burns to human body, and has sensitization.
2. Add sodium hypochlorite with sodium chlorite and sulfuric acid. The price is higher than the previous one. But it's better than the last one. Fibers that do not damage cloth. Sodium chlorite has strong oxidability. When the temperature is 175 °C , it will decompose and generate heat. When it contacts with combustible substances, it will explode violently. Pay attention to safety. Sulfuric acid is harmful to the environment and can cause acid pollution to water and soil. It is highly corrosive and irritant and can cause burns to human body.
3. Potassium permanganate, peracetic acid and reductive bleaching for denim. In addition to sodium hypochlorite and sodium hypochlorite, potassium permanganate, peracetic acid and reductive bleaching can also be used. The specific needs depend on the type of dyes used for denim. The traditional denim is reductive basket dye, which can also be replaced by sulfide or direct dye instead, reactive dyes are also used instead, so it needs to be considered according to the specific situation.
4. The advantages of ozone oxidation (a) no pollution, ozone is pure. At room temperature, it is easy to decompose and produce oxygen and oxygen atom (b). The oxidation ability of ozone is very strong. (c) Low operating cost.

Product application diagram



Product application diagram

