



Shijiazhuang GUANYU

Environmental Protection Equipment Co., Ltd.

GUANYU UV Sterilizer

Disinfection principle and introduction

According to the difference of biological effects, UV Rays can be divided into UV-A(320-400nm),UV-B(275-320nm),UV-C(200-275nm) and vacuum ultraviolet. Actually use UV-C in water treatment, and in this waveband near 260nm has been proved to be the highest effect.

GuanYu UV sterilizer set optics, microbiology, machinery, chemistry, electrons, fluid mechanics etc. as one whole. Adopt special designed high efficiency, high strength and long life UV-C light generator, when the bacterium, virus and stuff in water are irradiated by certain dose UV-C (waveband 253.7nm), their cell DNA and structure are destroyed, and cell reproduction cannot continue. Reach the effect of disinfection and purification to water. The spectral line with band 185nm can disintegrate the organic molecule in water, generate hydrogen and free radicals, make organic molecules oxidated into carbon dioxide, reach the purpose of removing TOC.

Advantages

- 1,High efficient sterilization: normally kill 99%-99.9% bacteria within 1 to 2 seconds.
- 2, Broad spectrum: Ultraviolet bactericidal broad-spectrum is the highest, can kill almost all bacteria and virus.
- 3, No secondary pollution: don't add any chemical agent, so cannot create secondary pollution to water and ambient environment, do not change any ingredients in water.
- 4, Safe and reliable to operate: traditional disinfection technology such as adopting chloride or ozone, the disinfectant itself are highly toxic, flammable substance. And UV disinfection system has no such potential security risks.
- 5, The machine Low operation and maintenance cost: UV sterilizer occupies a small area, structure requirement is simple, so total investment is smaller. Lower cost in operation, it costs only half than that chlorine disinfection in kiloton water treatment.

Equipment Features

- 1,Adopting high efficiency UV-C(LL or LH) UV light: adopting world leading low voltage and high intense UV light tube, light tube's operating life guarantee above 8000-12000 hours.
- 2,Adopt high light transmittance, high purity quartz drivepipe., ensure that UV light trough more than 90%.

3. Adopt world advanced constant, high strength UV special ballast, ensure the whole system operate normally in complex condition.

4. The reactor adopts high quality stainless steel(304 or 316L), the inwall of reactor is special polished, to improve the disinfection effect.

UV sterilization effect table

UV technology sterilization efficiency to common bacterial virus (Ultraviolet radiation strength 30mv/cm²)

Kind	Name	100% sterilization time(Seconds)	Name	100% sterilization time(Seconds)
Bacterial	Bacillus anthracis	0.30	bacillustuberculosis	0.41
	Corynebacterium diphtheriae	0.25	vibrio cholerae	0.64
	Clostridium tetani	0.33	pseudomonas	0.37
	Clostridium botulinum	0.80	Selbach	0.51
	shigella dysenteriae	0.15	Intestinal bacteria fever	0.41
	escherichia coli	0.36	Salmonella typhimurium	0.53
Viroid	Gland germs	0.10	Influenza virus	0.23
	Bite cell virus bacteria	0.20	Poliovirus	0.80
	Coxsackie virus	0.08	Rotavirus	0.52
	Love Ke virus	0.73	Tobacco mosaic virus	16
	Love Ke virus I type	0.75	HBV(hepatitis B virus)	0.73
Bacterial spore	Aspergillus niger	6.67	Soft spores	0.33
	Aspergillus	0.73-8.80	Penicillium	2.93-0.87
	Shit fungi	8.0	Toxigenic Penicillium	2.0-3.33
	Mucor	0.23-4.67	Penicillium other fungi	0.87
Algae	Blue-green algae	10-40	Paramecium	7.30
	Chlorella	0.93	Green alga	1.22
	Nematode eggs	3.40	Protozoa of class	4-6.70
Fish disease	Fung1 disease	1.60	Infected fish necrosis disease	4.0
	leukoderma	2.67	Viral hemorrhagic disease	1.6

Optimum Using Condition

- Iron content: no more than 0.3ppm (0.3mg/L)
- Suspended solid: no more than 10ppm (10mg/L)
- Water hardness: no more than 120mg/L
- Inflow water temperature: 5°C-60°C
- Hydrogen sulfide: no more than 0.05ppm (0.05mg/L)
- Manganese content: no more than 0.5ppm (0.5mg/L)
- Chrominance: no more than 15 degree

Application Industry

- 1, Food, beverage, beer, edible oil, all kinds of canned goods, cold drinks products etc. using water disinfection
- 2, Electrons industry ultra pure water, military camps, outdoor water supply system
- 3, Hospital, lab, high content causative agent waste water disinfection
- 4, Residents building, housing estate, office building, hotel, restaurant, waterworks disinfection
- 5, Aquatic product processing purification, shellfish purification, fish processing purification etc.
- 6, Town wastewater sterilization
- 7, Swimming pool, other entertainment water sterilization
- 8, Thermal power, industrial cooling water, central air conditioner system cooling water disinfection
- 9, Biology, chemical pharmaceutical, cosmetic using water disinfection
- 10, Seawater, freshwater seeding, aquaculture water, total processing water can reach 200,000 tons per day
- 11, Agricultural water, greenhouse water, irrigation disinfection etc.

Technology Parameter (Small Flow Type UV Sterilizer)

Model	Capacity T/H	Inlet pipe dia mm	Power W	Working pressure Mpa	Voltage V
GYC-UUVC-15	0.5	15	15	0.4	220
GYC-UUVC-40	1.5-2	25	40	0.4	220
GYC-UUVC-55	3-4	32	55	0.4	220
GYC-UUVC-75	4-5	32	75	0.6	220
GYC-UUVC-100	7-8	40	100	0.6	220
GYC-UUVC-120	9-10	50	120	0.6	220
GYC-UUVC-150	12-15	50	150	0.6	220
GYC-UUVC-200	18-20	65	200	0.6	220
GYC-UUVC-240	22-25	80	240	0.6	220

Technology Parameter (Large Flow Type UV Sterilizer)

Model	Capacity T/H	Inlet pipe dia mm	Power W	Working pressure Mpa	Voltage V
GYC-UUVC-300	26-30	80	300	0.6	220
GYC-UUVC-360	32-35	80	360	0.6	220
GYC-UUVC-400	36-40	100	400	0.6	220
GYC-UUVC-460	42-46	100	480	0.6	220
GYC-UUVC-500	47-50	125	500	0.6	220
GYC-UUVC-600	55-60	125	550	0.6	220
GYC-UUVC-720	70-75	125	720	0.6	220
GYC-UUVC-840	80-85	133	850	0.8	220
GYC-UUVC-960	90-95	133	960	0.8	220
GYC-UUVC-1080	100-110	150	1080	0.8	220
GYC-UUVC-1200	120-130	150	1200	0.8	220
GYC-UUVC-1320	140-150	200	1320	0.8	220
GYC-UUVC-600	55-60	125	600	0.8	220
GYC-UUVC-750	75-80	133	750	0.8	220
GYC-UUVC-900	85-90	133	900	0.8	220
GYC-UUVC-1050	110-120	150	1050	0.8	220
GYC-UUVC-1200	120-130	150	1200	0.8	220
GYC-UUVC-1350	150-160	200	1350	0.8	220
GYC-UUVC-1440	160-170	200	1440	0.8	220
GYC-UUVC-1500	180-200	200	1500	1.0	220
GYC-UUVC-1650	220-250	250	1650	1.0	220
GYC-UUVC-1800	280-300	250	1800	1.0	220
GYC-UUVC-2400	350-400	250	2400	1.0	220
GYC-UUVC-3000	460-500	250	3000	1.0	220
GYC-UUVC-4200	600-650	300	4200	1.0	220
GYC-UUVC-6000	800-900	350	6000	1.0	220

Photo

