



# Integrated Ozone System For **Aquaculture**

Air | Water | Waste Water



CHEMOZONE™



**Ozonation System**

**UV Sterilizer**

### Importance of Water Quality in Aquaculture :

Aquaculture is the fastest growing food producing sector in the world. The ever increasing demand, load on the fish hatchery environment calls for more intensive measures to maintain export grade production & longer shelf life. These demands have placed extreme pressure on hatcheries and farms already operating with limited facilities. The easiest way to increase production without vast capital outlay is to increase the number of fish being reared in a given volume. It is obvious that when the fish density per cubic meter is raised, the risk of infection, contamination & pollutants increases proportionally.

In order to maintain the survival rate as high as possible it is of vital importance to ensure that no water borne disease can enter the system, this applies to re-circulating as well as single pass systems. In general An ideal method of disinfecting water is the integration of multiple technologies like Ultra-Violet, Ozonation & filtration in a contact tank prior to use. Ozone is a very powerful bactericide and viricide and, unlike other agents, it leaves no undesirable residues. The latest available advanced ozone technology in combination with U.V.enhances the efficiency and be environmentally beneficial, now lies within the reach of all operators.



### Distinct Advantages :

- No need of Chlorine
- Oxidation of organic matter
- Precipitation of dissolved matter
- Micro-flocculation of organic matter
- Destabilization of colloidal matter
- High Degree of Disinfection
- No disinfectant by-product



**Integrated Ozone System**

### System Integration & Retrofitting :

Ozone is a naturally occurring gas. It reacts rapidly with organic materials (about 3,000 times faster than chlorine) and, unlike with chlorine, there are no toxic residues. The reaction by-product of ozone is oxygen, which is usually welcomed in aquaculture systems. Ozone is commonly used in influent water treatment as well as in recirculation systems for two main reasons:

1. Disinfection by the killing of harmful pathogens,
2. Improved water quality through enhanced micro-flocculation.

Apart from the proper ozone generator, the next most important part of any ozone plant or ozonation system is the equipment that brings the ozone in contact with the medium to be treated. The purpose of the contactor & diffusion equipment is to create a large gas/medium contact area so that, under specific conditions, the highest possible ozone gas diffusion is achieved.

Following ozonation in the contact ozone contactor cum diffuser, the water is pumped through a sand filter in order to remove any suspended impurities carried along with the water flow and any precipitated or flocculated matter. Finally, the water is passed through an series of Ultra-Violet reactor to remove traces of residual ozone & final disinfection.

### Diversified applicability :

- Water ozonation for fresh water treatment
- High performance filtration – fresh & recycled
- Advance oxidation using Ultra-Violet
- Waste water treatment & re-cycling
- Cleaning & processing water ozonation
- Cold room sterilization with ozone
- Processing & Packing air disinfection
- Equipment & Surface Sanitation
- Ozone ICE

## Filtration:

Model No.	PSF/FR 450	PSF/FR 530	PSF/FR 610	PSF/FR 750	PSF/FR 900	PSF/FR 1000	PSF/FR 1200	PSF/FR 1500	PSF/FR 1600	PSF/FR 1800	PSF/FR 2000
Filter Size (Inch)	18 x 65	21 x 62	24 x 72	30 x 72	36 x 72	42 x 72	48 x 72	60 x 72	63 x 72	72 x 72	78 x 72
Feed /Raw Water Flow Rate (m3/hr)	1.2	1.5	2.0	2.3	4.0	6.0	8.0	12.0	14.0	18.0	22.0
Pipe Size (NB)	20	25	25	25	40	40	40	50	50	65	65
Re-circulation Water Flow Rate (m3/hr)	4	5.5	7.0	11.0	16.0	20.0	28.0	44.0	50.0	63.0	78.0
Pipe Size (NB)	25	40	40	50	50	65	80	100	100	100	150

MOC : FRP ; Vessels are also available in MSRL & SS

## Ultra-Violet Sterilizer:

Model No.	UV/HC 1	UV/HC 2	UV/HC 4	UV/HC 5	UV/HC 10	UV/HC 20	UV/HC 40	UV/HC 60	UV/HC 80	UV/HC 100
Flow Rate (m3/hr)	1.0	2.0	4.0	5.0	10.0	20.0	40.0	60.0	80.0	100.0

HC : Heavy Commercial

## Air Ozonator:

Model No.	PAO/LC -1000	OG/LC -2	OG/LC -5	OG/OF 10	OG/HC -15	OG/HC -35	OG/HC -50	OG/HC -75	OG/HC -100
Capacity (gms/hr)	0.7 - 1.0	1.0 - 2.5	3.0 - 5.0	6.0 - 10.0	10.0 - 15.0	15.0 - 20.0	20.0 - 25.0	25.0 - 40.0	30.0 - 60.0

PAO: Portable Air Ozonator ; LC : Light Commercial ; HC : Heavy Commercial

## Water Ozonation:

Model No.	OG/HC 15	OG/HC 35	OG/HC 50	OG/HC 75	OG/HC 100	OG/HI 100	OG/HI 200	OG/HI 300	OG/HI 500	OG/HI 600	OG/HI 800	OG/HI 1000
Capacity (gms/hr)	10 - 15	15 - 20	20 - 25	25 - 40	30 - 60	70 - 100	130 - 180	200 - 250	300 - 350	400 - 630	500 - 750	600 - 1400

HI : Heavy Industrial ; HC : Heavy Commercial

## Chemone Contactor Cum Diffuser:

Model No.	CD/FR 250	CD/FR 500	CD/FR 1000	CD/FR 1500	CD/SS 250	CD/SS 500	CD/SS 1000	CD/SS 1500
Water Flow Rate (m3/hr)	2.0	8.0	15.0	25.0	2.0	8.0	15.0	25.0
Gas flow Rate (m3/hr)	0.5	2.0	4.0	6.0	0.5	2.0	2.0	6.0
Size (mm x mm)	250X500	500X1000	1000X2000	1500X3000	250X500	500X1000	1000X2000	1500X3000

MOC - FR : FRP ; SS : Stainless Steel

Chemtronics offers Green Technology for Waste Water Treatment & Recycling for Reuse.

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