CHLOPAC

Chlorine Dioxide Generator for Various Industries

SS Process and Aqua Care Solutions Pvt. Ltd.

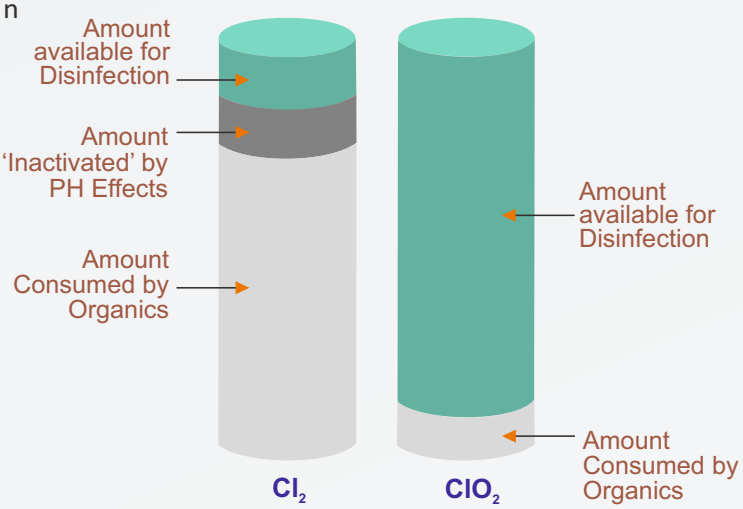
Why
Chlorine Dioxide

Although chlorine dioxide has “chlorine” in its name, its chemistry is radically different from that of chlorine.

Although studied in the high school chemistry, we can mix two compounds and create a third that bears little resemblance to its parents. For instance, by mixing two parts of hydrogen gas with one of oxygen - liquid water is formed. We should not be misled by the fact that chlorine and chlorine dioxide share a word in common. The chemistries of the two compounds are completely different.

Chlorine and chlorine dioxide are both oxidising agents (electron receivers). However, chlorine has the capacity to take in two electrons, whereas chlorine dioxide can absorb five.

This means that, mole for mole, ClO2 is 2.6 times more effective than chlorine.



Equal, if not greater importance is the fact that Chlorine dioxide will not react with many organic compounds, and as a result ClO does not produce environmentally dangerous chlorinated organics. For example; aromatic compounds have carbon atoms arranged in rings and may have other atoms, such as chlorine, attached to these rings, to form chlorinated aromatic highly toxic compound such Trihalomethane (THMs) and Halo Acetic Acid (HAAs) which persists in the environment, long after it is produced..

Chlorine dioxide's behaviour as an oxidising agent is quit dissimilar. Like Ozone, the predominant oxidation reaction mechanism for chlorine dioxide proceeds through a process known as Free Radical Electrophilic (i.e. electron-attracting) Abstraction rather than Oxidative Substitution or Addition (as in chlorinating agents such as chlorine or hypochlorite). This means that chlorinated organic compounds like Trihalomethane (THMs) and Halo acetic Acid (HAAs) are not produced as a result of disinfection using chlorine dioxide.

How
it Works

The chlorine dioxide generator “CHLOPAC” is used to produce liquid chlorine dioxide. This disinfectant kills all bacteria, germs, viruses and fungi very rapidly and works at very low concentration. The generator works according to the hydrochloric acid-chlorite process and uses dilute chemicals such as hydrochloric acid (HCl) and sodium chlorite (NaClO2) in accordance with the following chemical formula:

Hydrochloric acid + Sodium chlorite = Chlorine dioxide + Sodium chlorite + Water
4 HCl + 5 NaClO2 = 4 ClO2 + 5 NaCl + 2 H2O

In the process, each chemical is pumped with a certain proportion in a reactor by means of two dosing pumps. The system can work proportionally with a contact water meter or constant mode.

Range of Systems

SS PACS

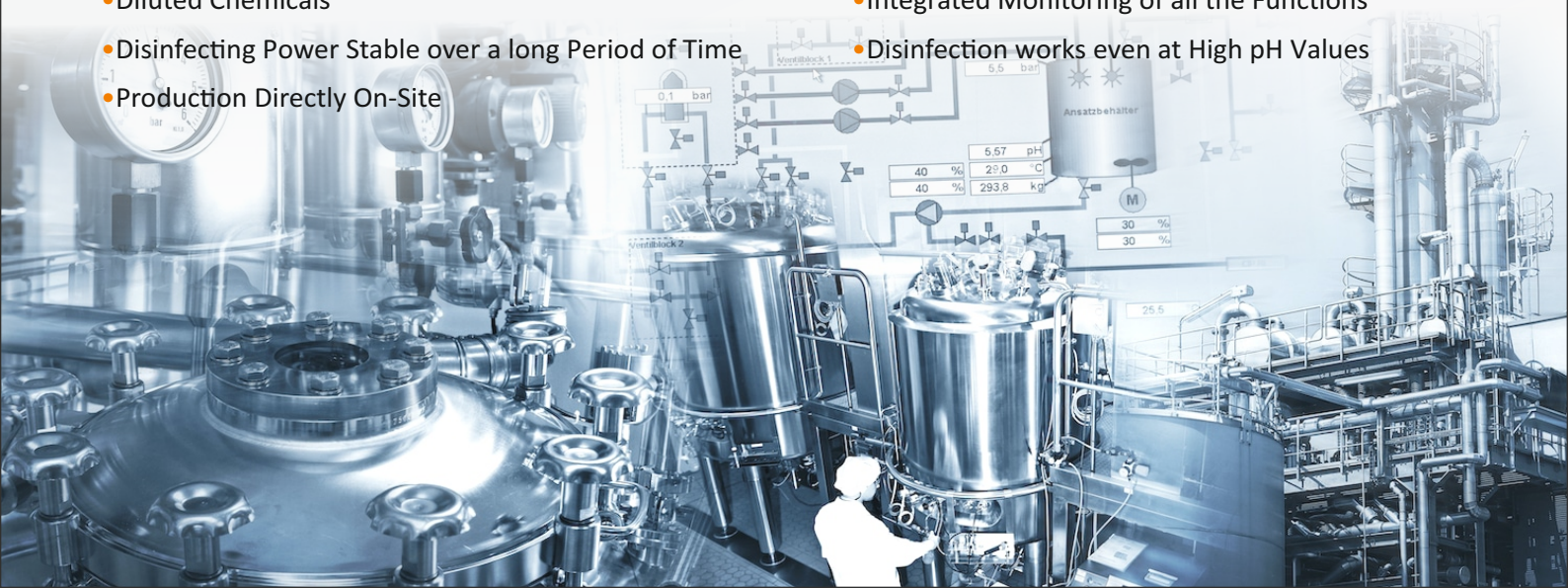
Model - Chlopac	200	500	1000	1500	2000	3000	4000	5000	6000
Application									
Legionella									
Beverage / Food									
Communal / Potable Waste Water									
Industry (Cooling Tower / Waste / Process Water etc.									

Tech. Specifications

Type:	Two Chemical System, Ratio - 1:1										
Model	Clo2 Dosing Performance	Max Operating Pressure	Operating Temparature	Dimensions	Weight	Chemical Conc %		Chemical Consumption - Kg		Power Supply	Frequency	Power Consumption
	Kg/Hr	Bar	°C	L x W x H - Mtr	Upto Kg	NaClo2	HCl	NaClo2	HCl	Volts	Hz	Watts
CHLOPAC- 200	0.2	10	10-55	0.8 X 0.9 X 1.5	1.0	8-12	33	1.07	1.07	230 V AC	50	150 Max
CHLOPAC- 500	0.5	10	10-55					2.67	2.67			
CHLOPAC-1000	1.0	10	10-55					5.34	5.34			
CHLOPAC-1500	1.5	10	10-55	1.0 X 1.0 X 1.5	3.0	25	33	8.01	8.01	415 V AC	50	1500 Max
CHLOPAC-2000	2.0	10	10-55					10.68	10.68			
CHLOPAC-3000	3.0	10	10-55					16.02	16.02			
CHLOPAC-4000	4.0	10	10-55	1.2 X 1.2 X 1.5	6.0	25	33	21.36	21.36	415 V AC	50	1500 Max
CHLOPAC-5000	5.0	10	10-55					26.70	26.70			
CHLOPAC-6000	6.0	10	10-55					32.04	32.04			

Advantages with 'CHLOPAC'

- Reaction at Controlled Pressure
- High Degree of stability of the Chlorine Dioxide Solution
- No ClO2 loss due to closed Reaction Chamber
- Diluted Chemicals
- Disinfecting Power Stable over a long Period of Time
- Production Directly On-Site
- Cost-Efficient
- Compact Design
- User-Friendly Operation
- Integrated Monitoring of all the Functions
- Disinfection works even at High pH Values



Benefits

of using Chlorine Dioxide over Chlorine for Disinfection

Chlorine	Chlorine Dioxide
Does not remove Biofilm.	Removes Biofilm. (thus clean tanks and pipes)
Produces unwanted by-products including Carcinogens. (THM/HAA)	Does not form chlorinated by-products.
Corrosive and unpleasant to handle. (Hydrolyzetoform hypochlorous acid)	Is much less corrosive than chlorine. (Does not hydrolyse to form an acid)
pH dependent and highly ineffective above pH7.	Not pH dependent .
Ineffective against complex organisms. (e.g.:Cysts& Protozoa)	A very broad spectrum kill *
Limited oxidative effect against various chemical contaminants. Forms chlorinated Phenols. Neutralization required before dumping to the drain.	Destroys phenols (without forming chlorinatedphenols) specific destruction of Hydrogen Sulphides. Destruction of a wide range of chemical contaminants #. Will have lower residual after use, no neutralization normally required.
Cannot be used at temperatures above 40°C due to the release of chlorine gas.	Effective at higher temperatures - does not disassociate as rapidly as chlorine.
Increased disinfection time and more service work required to combat high bug counts.	Cost savings in labour and use efficiency outweighs the additional chemical costs.

***Includes Aerobic, Non-Aerobic, Gram Positive & Gram Negative Bacteria, Spores, Viruses, Fungi, Cysts and Protozoa.**

#Includes Iron, Manganese and other Metallics, Phenols, Trichlorophenols, Hydrogen Sulphides and Sulphides.

Our

Service Offers

Pre-Sales	After Sales
We ensure that you get the optimum solution for your individual needs.	Our commitment does not end with delivery. We offer you a comprehensive after-salesservice, which lasts for the entire service life of equipment to maximise productivity and minimise operating costs: Assembly, installation, commissioning, Maintenance, Spare Parts, Trouble Shooting and Repairs.
Advice in selection of right products.	
Application and process optimisation.	
Project planning.	

SS Process and Aqua Care Solutions Pvt. Ltd.

Regd. Office
4-9-105, HMT Nagar, Nacharam,
Hyderabad - 500076. TS. India.

Phone: +91 970 1414 338 | **E-Mail:** info.pacsengg@gmail.com | **Website:** pacsengg.com