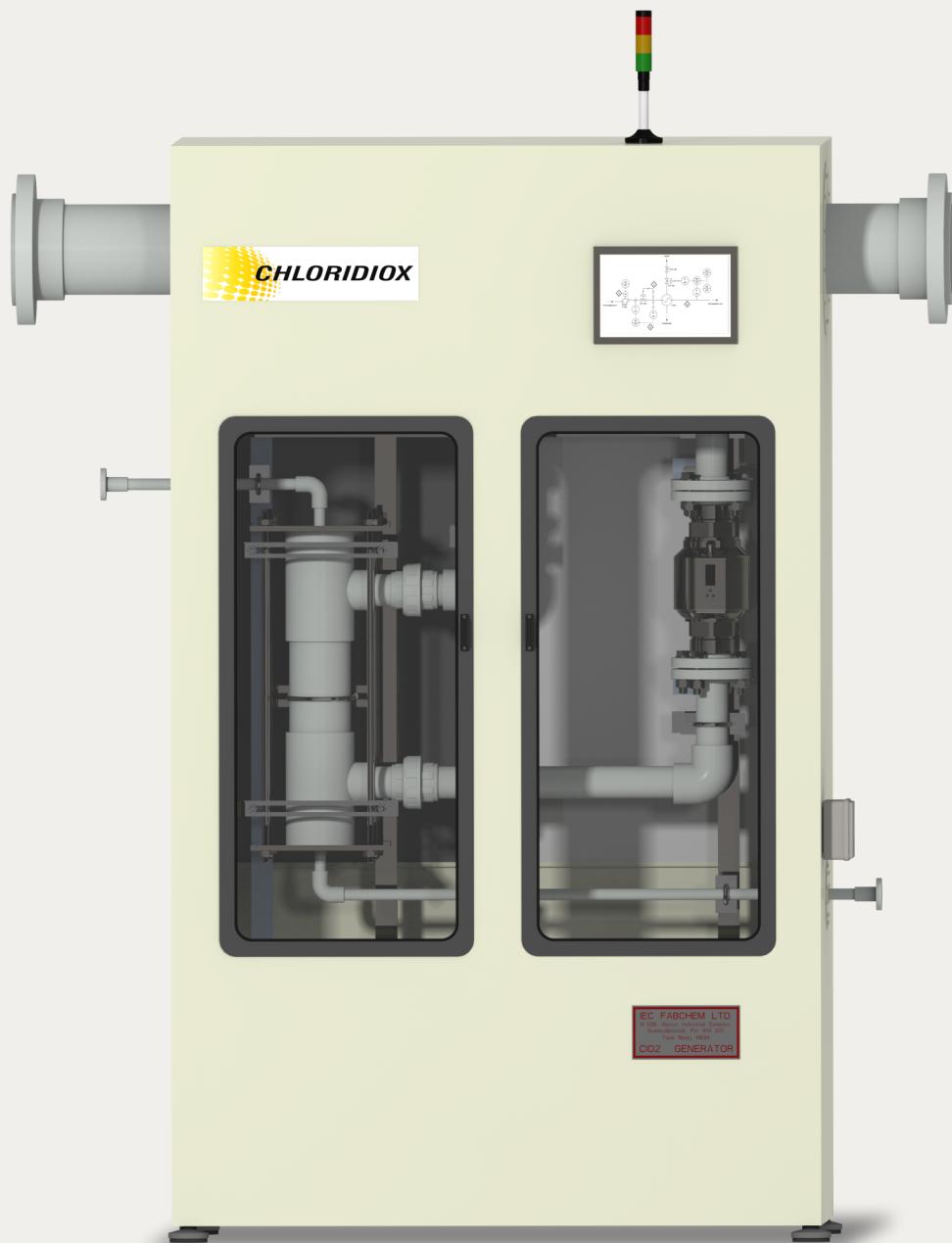




# **IEC FABCHEM LIMITED**



# CHLORIDIOX

## CHLORINE-DI-OXIDE - ClO<sub>2</sub> GENERATION & DOSING



# CHLORIDIOX

CIO<sub>2</sub> Generation & Dosing

## ABOUT IEC

With nearly sixty years of excellence in the supply of water disinfection, bio-fouling control systems we introduce to you CIO<sub>2</sub> technology with world-class construction and quality standards. Our Chlorine Dioxide (CIO<sub>2</sub>) generators are capable of fulfilling the industrial requirements, and are backed by unrivalled application expertise and technical support.

## WHY CIO<sub>2</sub> ?

Hydrolysis of chlorine gas occurs in water whereas chlorine dioxide in water does not hydrolyse to any appreciable extent but remains in solution as a dissolved gas thereby becoming very potent disinfectant. CIO<sub>2</sub> is 1.9 times more effective than chlorine

“Chlorine-dioxide is essential to completely destroy the biofilm to have safe and pathogen free water. Unlike traditional systems such as Chlorine gas feeders and Electro-chlorination system which have a narrow pH range. CHLORIDIOX is active in a broad pH range between 6-10.

A continuous supply of aqueous Chlorine Dioxide solution is needed for the water disinfection and bio-fouling control process.

**1.9 Times**

**CIO<sub>2</sub>**

MORE EFFECTIVE  
THAN CHLORINE

In treating most pathogens.

# The Solution

IEC'S **CHLORIDIOX** range of Chlorine Dioxide Generators are designed to deliver ClO<sub>2</sub> in water disinfection for municipal drinking water and larger industrial applications with excellent efficiency (95%+ yield) and high purity.

- 01 OIL & GAS
- 02 RECIRCULATING COOLING TOWERS
- 03 MUNICIPAL POTABLE WATER TREATMENT
- 04 WASTE WATER TREATMENT PROCESSES
- 05 PAPER & PULP INDUSTRIES

Generators are designed to take  
**25 to 31% NaClO<sub>2</sub> & 31% to 33% HCl**  
to produce 1000 to 1500 PPM ClO<sub>2</sub>.



**Water submerged**  
**GENERATORS.**

**CHLORIDIOX**

CLO<sub>2</sub> GENERATION & DOSING

**SAFELY  
ENCAPSULATED** |

**CHLORIDIOX**

CLO<sub>2</sub> GENERATION & DOSING



## Special emphasis on safety

When industries using elemental chlorine migrate towards other biocides such as CLO<sub>2</sub> one must be aware that chlorine dioxide can decompose rapidly from solution when exposed to air and sunlight. The decomposition can be initiated by light, localized hot zones, chemical reaction with reducing agents, or pressurization. Because of the inherent explosive property of chlorine dioxide generation, methods that involve producing solutions of chlorine dioxide without going through a gas-phase stage are utilized.

IEC'S Safe **CHLORIDIOX** generators of submerged, encapsulated design are carefully engineered and manufactured to ensure safe CLO<sub>2</sub> generation & handling without going through a gas phase stage. Further the process of generation and dilution are controlled under "PULL-PUSH" conditions to enable instant dilution evacuation.

The CLO<sub>2</sub> solution concentration is kept below 1500 ppm and generally at 1000 ppm for safe dosage.

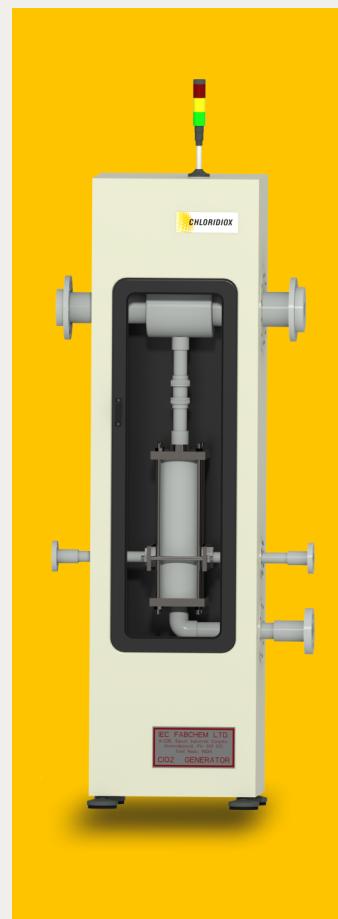
**Available Capacity:** 250 g/hr to 200 kg/hr

|                                 |   |
|---------------------------------|---|
| <b>Temperature</b>              | Ambient: 5 to 35 °C<br>Process Temperature: 10 to 30 °C<br>Precursor feed pump: 10 to 35 °C |
| <b>Operating pressure</b>       | 5 Bar (g) (Max)<br>*Higher pressure systems can also be designed on request.                |
| <b>Protection level</b>         | IP 65 (Electronics and Dosing pumps)  |
| <b>Materials</b>                | Reactor : PVDF/PP/PVC<br>Hoses : PTFE/PE<br>Gaskets : VITON<br>Dosing Pumps : PVDF/PP       |
| <b>Power Supply</b>             | 10/220 VAC & 50 Hz / 60 Hz  |
| <b>Capacity turn down ratio</b> | 10:1  |



## Design & Safety Features

-  Safe submerged & controlled reactions in underwater encapsulated generators
-  Touch screen HMI with provision for PLC controllable system.
-  Built in continuous self-evacuation reaction chamber type generator.
-  Auto system safety shutdown due to process upset condition.
-  Over 90% efficiency of CLO<sub>2</sub> production with optimized reaction.
-  Automation – flow based and residual based control.
-  Built-in process safety module.

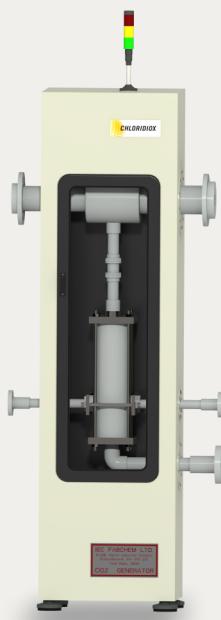


## Treatment dose & application

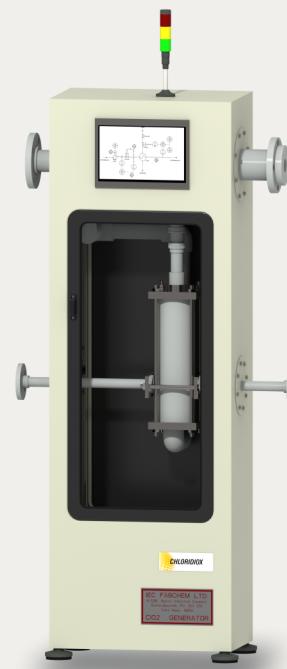
Treatment dose with CLO<sub>2</sub> depends on the water quality, purpose of treatment and environmental regulations. Dosages typically range from 0.2 to 1 ppm and applied directly in aqueous form to the water to be treated.

Depending on system application either continuous or intermittent shock dose can be applied.

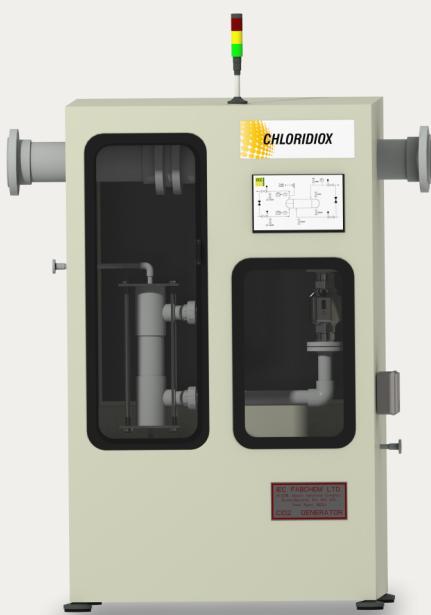
| MODEL              | CAPACITY                                       | PROCESS WATER FLOW REQUIRED |
|--------------------|--|-----------------------------|
| <b>CLOX - 1K</b>   | Generates 250 grams – 1 Kg/hr CLO <sub>2</sub> | 1 m <sup>3</sup> /hr        |
| <b>CLOX - 5K</b>   | Generates up to 5 Kg/hr CLO <sub>2</sub>       | 5 m <sup>3</sup> /hr        |
| <b>CLOX - 25K</b>  | Generates up to 25 Kg/hr CLO <sub>2</sub>      | 25 m <sup>3</sup> /hr       |
| <b>CLOX - 50K</b>  | Generates up to 50 Kg/hr CLO <sub>2</sub>      | 50 m <sup>3</sup> /hr       |
| <b>CLOX - 100K</b> | Generates up to 100 Kg/hr CLO <sub>2</sub>     | 100 m <sup>3</sup> /hr      |
| <b>CLOX - 150K</b> | Generates up to 150 Kg/hr CLO <sub>2</sub>     | 150 m <sup>3</sup> /hr      |
| <b>CLOX - 200K</b> | Generates up to 200 Kg/hr CLO <sub>2</sub>     | 200 m <sup>3</sup> /hr      |



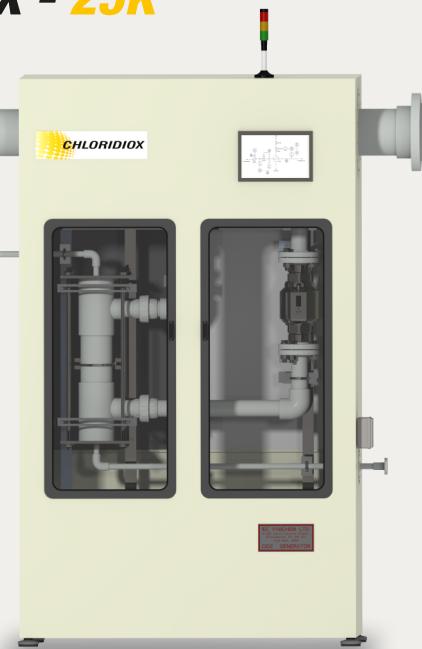
**CLOX - 5K**



**CLOX - 25K**



**CLOX - 100K**



**CLOX - 200K**



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