

Capital Controls® U and L-Type Underwater Chlorine Dioxide Generators

Expertise

De Nora, through the **Capital Controls®** brand, and **De Nora ISIA Srl** have wide ranging experience, especially in the Middle East, where the underwater design is the Chlorine Dioxide (ClO_2) system of choice and is installed across the region.

Safe Design

Chlorine Dioxide is generated on-demand as needed and reagents are mixed under water and injected directly into the water being treated.

ISIA Chlorine Dioxide generators minimise Disinfection Byproduct formation.

Effective & Reliable

Production yield of 95-98%.

In line dosing of chlorine dioxide offers efficient consumption of chemical precursors with 5.7 kg HCl per 1 kg of ClO_2 generated.

Underwater design treats up to 50,000 m^3 of water per hour based on a ClO_2 concentration of 0.4 mg/L, with standardized production capacities from 0.5 to 20 kg/h and engineered solutions from 60 g/h to 200 kg/h of ClO_2 .

Chlorine Dioxide Production

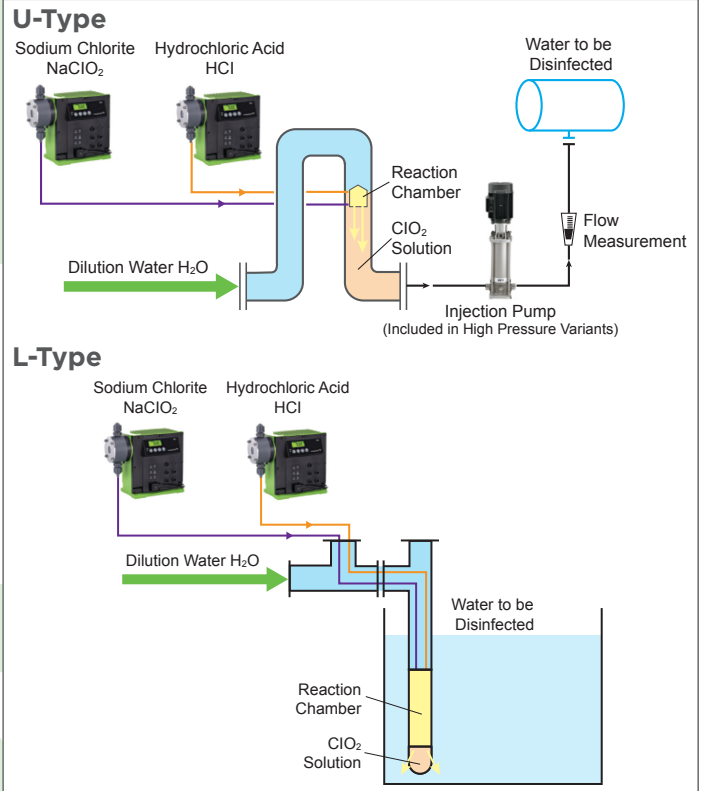
Based on a patented underwater production technology, Capital Controls systems generate chlorine dioxide (ClO_2) using concentrated solutions of sodium chlorite (NaClO_2 25% or 31%) and hydrochloric acid (HCl 31-33%).

Chlorine dioxide is produced in a small reaction chamber, which is installed in-line, and is injected directly into the water requiring treatment. In this way, the chlorine dioxide is present only in the treated water, which ensures superior safety and efficiency.

Applications

Capital Controls systems are ideal for treatment water in the following applications areas:

- Drinking water treatment
- Cooling water treatment
- Municipal water treatment
- Industrial water treatment



CHLORINE DIOXIDE GENERATOR MODELS

Model	ISIA-0.5	ISIA-1	ISIA-2	ISIA-5	ISIA-10	ISIA-20
Model Capacity	.5 kg/hr	1 kg/hr	2 kg/hr	5 kg/hr	10 kg/hr	20 kg/hr
Capacity Range	10 to 100% of max capacity					
Reaction Chamber	U-Type and L-Type					
Inlet dilution water pressure	1-2 bar					
ClO_2 solution injection pressure	1-7 bar (depending on variant)					
Concentration of chemicals	NaClO_2 25% or 31%; HCl 31-33%					
Concentration of ClO_2 solution	Max 1 g/L (1,000 ppm)					
Consumption of NaClO_2 31% (25%)	5.7 kg (7.1 kg) per kg of ClO_2					
Consumption of HCl 31-33%	5.7 kg per kg of ClO_2					
ClO_2 yield (EPA Method)	95-98%					
Temperature range	Admissible ambient temperature: 0 to 40°C					
	Admissible operational water temperature: 0 to 40°C					
	Admissible chemical temperature: 0 to 40°C					
Interfaces	Ethernet, serial connection and USB data download					

This document for use only in the Middle East

About De Nora

Backed by 100 years of experience, you can be confident in the reliability and safety of ISIA and Capital Controls systems. De Nora is the partner-of-choice for communities and companies around the globe. In fact, more than 500 million people around the world use water treated by De Nora products every single day.

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