



DIOX-A 250 CHLORINE DIOXIDE GENERATOR

WALLACE & TIERNAN® PROCESS TECHNOLOGY

The DIOX-A generator is the synonym of reliability in chlorine dioxide technology combining high safety performance with durability, simplicity and low maintenance. Chlorine dioxide is produced as an aqueous solution of stable strength up to a 250 g/h. For the generation, hydrochloric acid (9%) and sodium chlorite (7.5%) are used. The strength of the two basic chemicals is balanced in a ratio that ensures an optimal yield of chlorine dioxide.

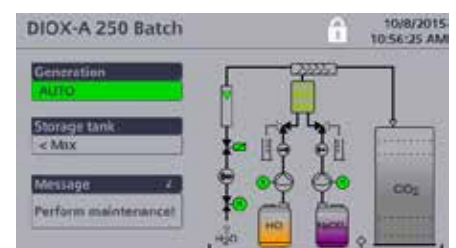
The DIOX-A 250 generator delivers all the benefits of chlorine dioxide with safety and efficiency in mind. The powerful disinfectant prevents trihalomethane (THM) formation and will not react with ammonia to form less active chloramines. The DIOX-A 250 generator is known for the effective elimination of chlorophenols, oxidation of inorganic compounds such as iron and manganese, and successful control of taste, odor and color. It is highly effective against biofilm formation as well as viruses, bacteria, protozoa and cysts; including Legionella.

Applications

- Drinking water
- Industrial; process water, food and beverage, cooling towers
- Legionella control
- Wastewater treatment

Key Benefits

- Safe operation using dilute reactants
- Unparalleled flexibility with capability of batch and inline operation
- Intuitive, user-friendly touchpanel with animated process graphics
- Precise generation by measuring and regulating the flows of the chemicals
- Extensive communication capabilities
- Compact design for easy installation



ANIMATED PROCESS FLOW SCHEME VIEW

METHOD OF OPERATION

In the DIOX-A system, chlorine dioxide is produced as an aqueous solution of a constant strength. Both reagents are withdrawn from commercial carboys or storage tanks by metering pumps and discharged into a reaction tower. The exact metering of the two basic chemicals is monitored by volumetric flow meters (oval wheel flow meters). The capacity of generation can be precisely set manually on a well arranged operating panel.

In addition to manual control the following automatic control modes are available:

For flow-proportional operation a linear input signal (for example from a water meter installed in the main water pipeline) is used to control the feed rate of the generator. The generator's feed rate can also be controlled from an external measured value. This arrangement allows a control loop to be configured.

The chlorine dioxide solution can be directly metered via an injection unit into the water to be treated. Alternatively, an integrated storage tank (Batch) can be used in case of multipoint, high pressure injection or with extended dosing interruption of several hours. In this case an intermediate tank is required.

	DIOX-A 50	DIOX-A 100	DIOX-A 170	DIOX-A 250
Standard capacities	50 g/h	100 g/h	170 g/h	250 g/h
Capacities (batch)*	40 g/h	80 g/h	135 g/h	200 g/h
Flow rate of NaClO ₂	1.25 l/h	2.50 l/h	4.25 l/h	6.25 l/h
Flow rate of HCl	1.25 l/h	2.50 l/h	4.25 l/h	6.25 l/h
Water flow meter with min. contact	500 l/h		1000 l/h	
Approx. weigh	30 kg	32 kg	35 kg	37 kg

* by use of a standard product tank

TECHNICAL DATA

Sodium chlorite solution NaClO₂ (7.5 %):

Standard carboy or storage tank

Hydrochloric acid solution HCl (9 %):

Standard carboy or storage tank

Operating water pressure: min. 1 bar - max. 10 bar

Power supply: 1/N/PE AC 100-240 V, 50/60 Hz

Power consumption: approx. 0.12 kVA

Fuse: max. 10 A

Dimensions (W x H x D): 800 x 1150 x 300 mm

CONTROL

SIMATIC® S7-1200 CPU 1214C

SIMATIC HMI KTP400 Basic Panel with 4" TFT wide-screen display, 65536 colors, LED backlighting, key and touch operation, code-protected operation, retentive and maintenance-free message system, Backlight with automatically dimming

Inputs:

Set value signal (pulses from controller, contact water meter or inductive flow meter; analog input 4-20 mA);
leak monitoring

Unpowered outputs:

Two alarm relays (functions selectable)

Outputs:

Control of a motor contactor for an external booster pump
Potential-free contact for release dosing (only for batch operation)

Connections (optional):

- Process Monitoring System via RS 485
- PROFIBUS® DP-Slave
- PROFINET® IO-Device
- MODBUS® TCP