

Wallace & Tiernan® Process Systems

DIOX-A 250 Chlorine dioxide generator

The Wallace & Tiernan® DIOX-A chlorine dioxide generator using dilute reagents was developed for the preparation of chlorine dioxide up to a capacity of 250 g/h. This unit uses Cedolyt A9 (hydrochloric acid, 9 % HCl) and Nadolyt C7.5 (sodium chlorite, 7.5 % NaClO₂) for the generation of chlorine dioxide. Both reagents are metered directly from commercial carboys or intermediate storage tanks into the reaction tower where a chlorine dioxide solution is produced. The strength of the two basic chemicals is balanced in a ratio that ensures an optimal yield of chlorine dioxide. The chlorine dioxide solution produced is directly metered via an injection unit into the water to be treated.

Applications

- Drinking water
- Breweries
- Soft drink industry
- Industrial water
- Cooling water
- Wastewater

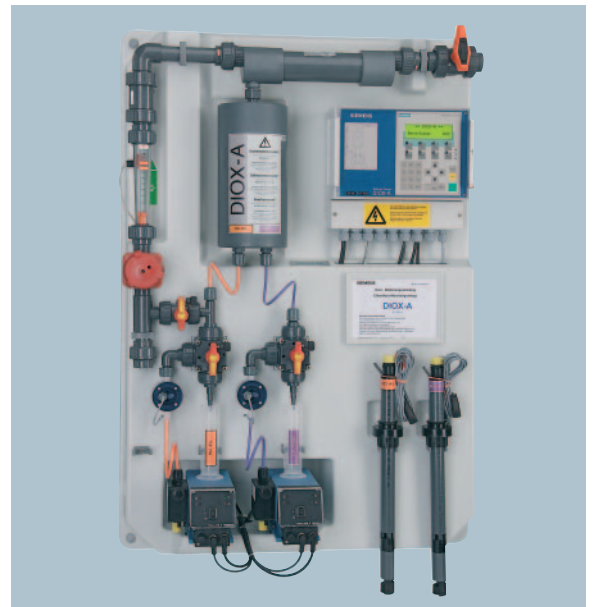
General

Chlorine dioxide is a powerful oxidising agent, excellent for disinfection and destroying odours. The capability of chlorine dioxide to destroy spores and viruses may be higher than that of chlorine.

Chlorine dioxide is capable of maintaining an active residual for a longer time than chlorine. This advantage of stability often dictates its use to protect remote sections of distribution systems and to prevent bacterial growth.

Benefits:

- Manual control and automatic control mode selectable
- Great choice of applications (also at higher pH values)
- Batch operation provides facility to connect several metering pumps
- Optimal process precision by calibrated metering pumps and regulation of the chemical dosage
- PLC-controlled unit with mimic diagram and operating panel
- Plain-text menu assistance
- User-adjustable alarm contacts
- Display of service intervals
- Compact design



Product Sheet

Water Technologies

SIEMENS

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 Both reagents are withdrawn from commercial carboys or storage tanks by metering pumps and discharged into a reaction tower.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.

Batch operation is normally used where the generator supplies several points of application. In this case an intermediate tank is required.

An optional leakage probe installed in the bunds can be added to the standard two-level control system of the reagent tanks.

All control parameters are entered via plain-text menus. Status signals and alarms are displayed on the operating panel.

	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
Flow rate of Nadolyt	1.25 l/h	2.50 l/h	4.25 l/h	6.25 l/h
Flow rate of Cedolyt	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. weight	30 kg	32 kg	35 kg	37 kg

Technical data

Nadolyt NaClO₂ solution (7.5 %):

Standard carboy or storage tank

Cedolyt HCl solution (9 %):

Standard carboy or storage tank

Operating water pressure:

min. 1 bar – max. 8 bar

Power supply:

1/N/PE AC 230 V, 50 Hz

Power consumption:

approx. 120 VA

Fuse:

max. 16 A

Dimensions (W x H x D):

800 x 1150 x 300 mm

Control

PLC:

Simatic® S7-200/CPU 224

Control desk:

Simatic® OP7 operating panel and code-protected service menu

Unpowered inputs:

external release

Level monitoring system:

Tank levels EMPTY, MAX, OVER-FILLED
(Required for batch operation only)

Inputs:

Set value signal (pulses from oval wheel meter, contact water meter IFM or control system)

Unpowered outputs:

Alarm relays (functions selectable)

Outputs:

Control of a motor contactor for an external booster pump (AC 230 V)

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