dioxide PACIFIC

CHLORINE DIOXIDE MINI GAS (CMG) ELECTROCHEMICAL GAS GENERATOR

electricide
ClO_2

Chemical Reactions - Electrochemical ClO_2 Production
① Anode (oxidation): $ClO_2^- \rightarrow ClO_2 + e^-$
② Cathode (reduction): $2H_2O + 2e^- \rightarrow H_2 + 2OH^-$

FROM SINGLE PRECURSOR

Typical applications like decontamination or sanitization of rooms and public spaces require controlled, safe dosing of chlorine dioxide gas. The CMG generator is the perfect fit.

Chlorine dioxide is generated using the proven CDE electrochemical cell. Sodium chlorite (Electricide-P1) is the only precursor required. Chlorine dioxide is generated at the anode side of the cell and extracted using an air pump. Water is reduced at the cathode side of the cell to form caustic soda and hydrogen. Hydrogen is vented out the top of the generator cabinet through a blower.

TOUCHSCREEN CONTROL

The CMG generator is PLC and touschscreen controlled. Chlorine dioxide gas is dosed into a duct or space by connecting hose or pipe from the outlet connection to the dosing point. Operation is using a real time timer with flexible start and stop times based on time of day; day of week; run time and stop time. For example, you could set it to start on a Monday, Wednesday and Friday every week at 5pm and turn off at 6pm. The desired time schedule is entered at the touchscreen. The operation log is a historical record that dosing has occurred.

Inputs available:

- Gas Monitor to ensure chlorine dioxide concentration stays within the safe range.
- Low level switch for sodium chlorite precursor solution.
- Remote dosing start/stop

Operational status and alarms are displayed at the touchscreen. Optional secure remote internet access is available through a 4G modem.

SKID MOUNT AND PORTABLE

The CMG generator is a complete system with all components mounted inside an HDPE cabinet. This cabinet is light enough to be pushed to any desired location using the wheels mounted at the base. In the cabinet is an RO water pre-treatment system. During standby periods, mains water is connected to the side of the skid. Water is treated to charge the RO accumulator tank. When you are ready to use the generator, just disconnect the mains water hose.

Electricide-P1 sodium chlorite solution is stored in a (4 L = 1 Gal) container in the cabinet. Simply top this up when level gets low.

Waste solutions of anolyte and catholyte are collected in a (4 L = 1 Gal) container for neutralization and disposal.

Power connection to the skid is using a standard 120 V, 60 Hz (USA) or 240 V, 50 Hz (Australia, New Zealand) cable and male plug.

TYPICAL APPLICATIONS

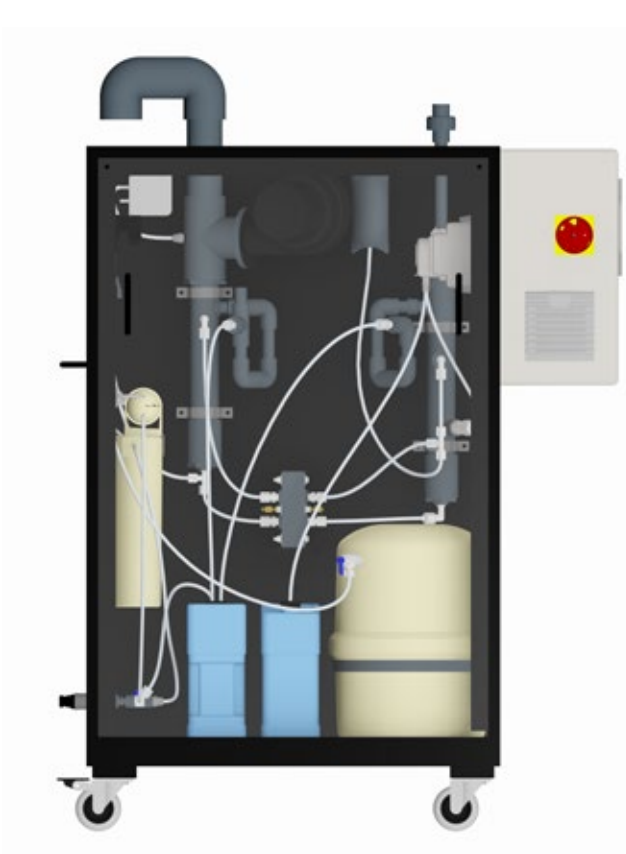
Decontamination of a room or public space. The CMG generator can be transported to the room where the outlet pipe is connected into the room or its ventilation system. Allowing for a calculation of the room volume, the generator run time is entered at the HMI.

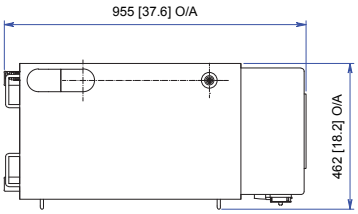
Cooling tower dosing. Using an eductor and bypass water flow, the CMG generator can be set for remote start/stop dosing of ClO_2 gas into the bypass flow.

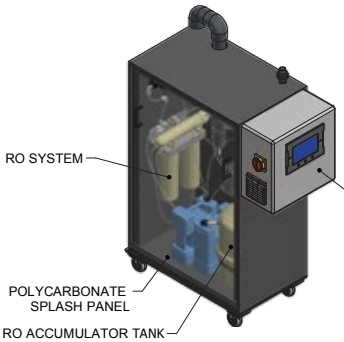
Sanitization of hard surfaces or foaming. ClO_2 gas or foamed gas can be introduced onto hard surfaces using timers to control moulds and spores.

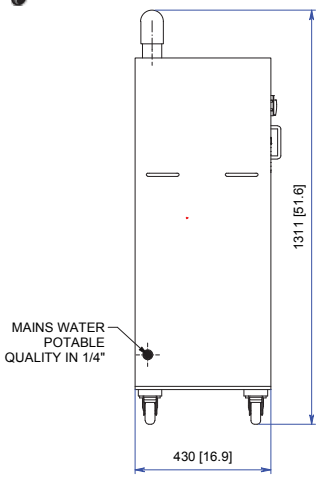
Specifications

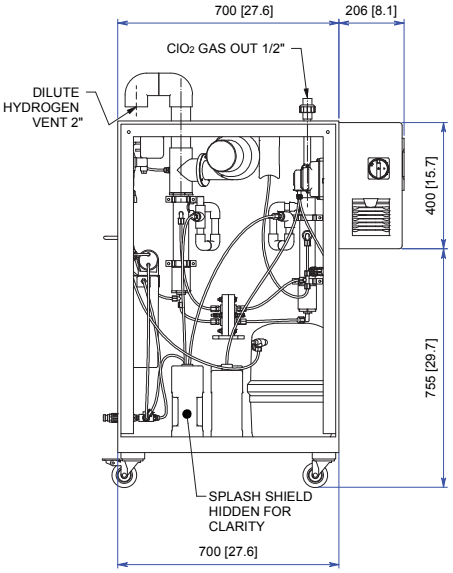
	Metric Units	US Units
Output as ClO_2	9.4 g/hr	0.5 lb/day
ClO_2 gas concentration generated	< 2 % v/v	
Power	120 V, 60 Hz	240 V, 50 Hz
Current	4.0 A @ 120 V	2.0 A @ 240 V
Electricide-P1 (31% sodium chlorite) consumption at max output.	47 mL/hr	0.012 GPH
RO water consumption	50 mL/hr	0.013 GPH
Combined waste production	80 mL/hr	0.021 GPH
Dimensions	712 x 413 x 1704 mm (w x d x h)	28” x 16” x 67” (w x d x h)
Weight	50 kg	110 lb
Inputs	*Included* • Output isolator button • Programmable real time timer for start-stop operation *Optional* • ClO_2 gas monitor alarm • Remote start/stop • Low precursor level switch	
Materials of construction	• HDPE cabinet • PVC Sch80 pipe and fittings • PTFE, FEP tube. • Polycarbonate splash shield • Fiberstrut fasteners	
Remote access	*Optional* • 4G cloud VPN router and local SIM (by others). • Remote connection to HMI for operation of plant, email alarm notifications and data logging	











UTILITIES:

POTABLE WATER CONNECTION TO REFILL RO ACCUMULATOR TANK.
RO WATER CONSUMPTION: 0.05 L/HR = 0.013 GPH.
PRESSURE AT POTABLE WATER CONNECTION: MINIMUM 3.5 BAR = 50 PSI
POWER: 200-240V 50/60 Hz 2A OR 120V 60 Hz 4A. CONNECT TO 10A SUPPLY.
ELECTRICIDE-P1: 4L = 1 GAL CONTAINER. CONSUMPTION: MAX 0.047 L/HR = 0.0125 GPH

NOTES:

1. TOTAL APPROXIMATE WEIGHT: 70kg [154lb]
2. APPROXIMATE SHIPPING SIZE: 1450x1100x700mm [57.07x43.31x27.56in]

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THIRD ANGLE PROJECTION

UNLESS SPECIFIED OTHERWISE:
ALL DIMENSIONS IN mm[inch]
TOLERANCES
LINEAR 0 mm [inch]
ANGULAR 0 DEGREE

MATERIAL: ---
FINISH: ---

REVISIONS	DESCRIPTION	BY	CKD	APPD	DATE
C-02	TROLLEY REMOVED, CABINET MODIFIED AND DRAWING UPDATED	RAJ	FH	PG	20/10/2020
C-01	FOR CONSTRUCTION	RAJ	FH	PG	12/10/2020

REVIEW BY : FH	CLIENT: DIOXIDE PACIFIC
APPROVED BY : PG	PROJECT: D11084
DRAWN BY: RAJ	DESCRIPTION: CMG GENERATOR
CREATION DATE: 28/04/2020	DRAWING No: D11084-GA-0002
SHEET 1 OF 1	REVISON C-02
SIZE A3	

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