PRODUCTION OF CHLORINE DIOXIDE
Using diluted NaClO2 and HCl solutions

General

OxipermPro systems produce chlorine dioxide using diluted solutions of sodium chlorite (NaClO2 7.5%) and hydrochloric acid (HCl 9%). They are available in four capacity levels, producing 5, 10, 30 and 60 g/h of chlorine dioxide. The systems can treat up to 1500 gpm at the residual concentration of 0.4 ppm ClO2. Chlorine dioxide is produced on demand from diluted solutions using the reliable and simple two chemicals methods of sodium chlorite and hydrochloric acid. The chlorine dioxide solution produced can be stored in an internal batch tank for continuous injection, or dosed into an external batch tank for on-demand operation.

Chlorine dioxide is a EPA registered chemical safe for drinking water treatment. Grundfos OxipermPro systems are NSF 61 PWTF registered for drinking water initiative, and UL and CE certified.

Applications

Penetrating Biofilm to Combat Legionella

Chlorine dioxide is especially effective when used to combat germs and pathogens, such as legionella in commercial building water systems and installations. It disinfects by attacking the stubborn biofilm that acts as a protective layer for the bacteria, continuously destroying the biofilm, thus removing the breeding ground for microorganisms and preventing it from building up again. Chlorine dioxide also reacts and interrupts the bacterial cellular processes, completely eliminating the bacteria on impact.

No Taste and Odor for Food and Beverage Processing

Chlorine dioxide is often used in the food and beverage industry for disinfection of process water or for CIP and bottle washing since its residual does not have any taste and odor and does not affect the taste or smell of the treated water.

The Oxiperm Pro OCD-162-5 and -10 systems are designed for small or medium size industrial or food and beverage projects with water flow up to 275 gpm.

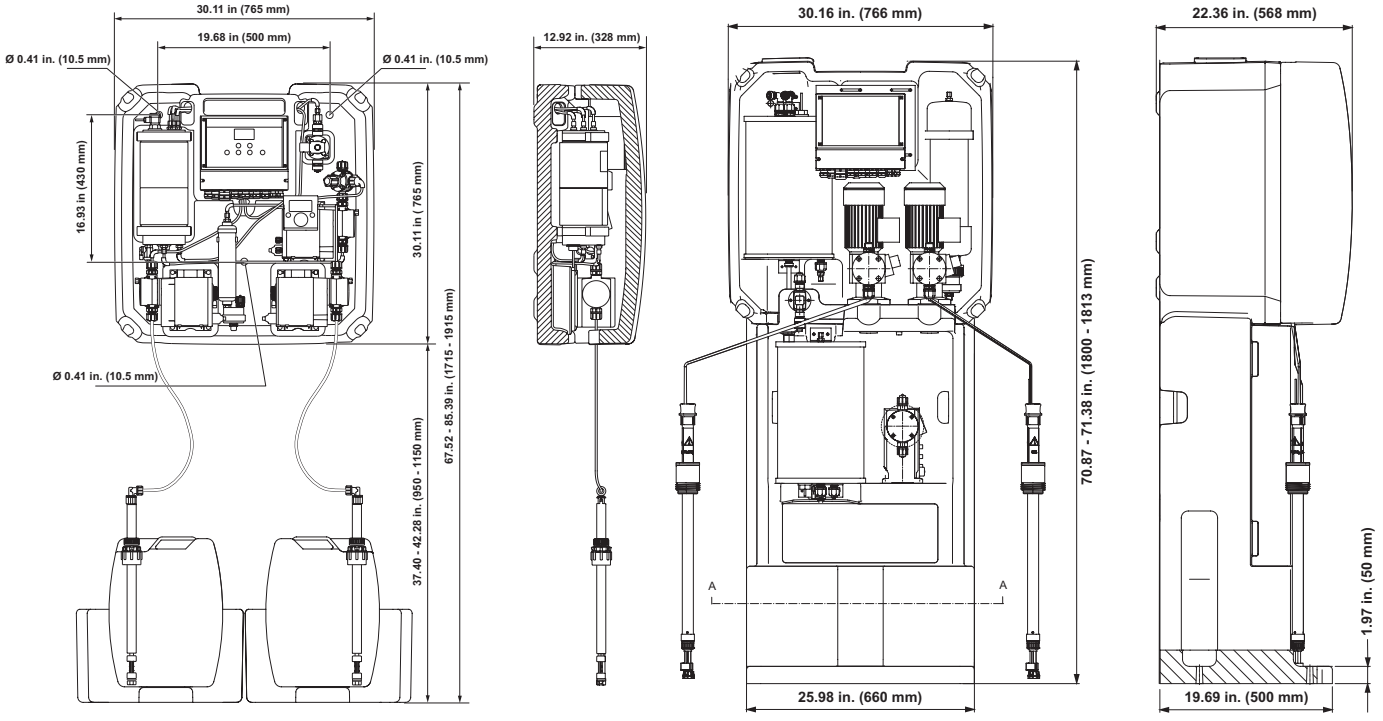
The Oxiperm Pro OCD-162-30 and -60 systems are suited for large building and cooling tower applications up to 1650 gpm.

Benefits of the Oxiperm Pro system

- Compact system for small or confined space
- Simple two dilute chemicals for safe handling and low operating cost
- Stable 2% product solution can be stored for several days
- Integrated 4-20 mA for measured value logging
- Integrated analyzer for accurate residual monitoring
- Safety air bag and filter to prevent any off gasing
- Collective warning and alarm output relay
- Single reaction chamber and batch tank for easy maintenance

Technical Data

Chlorine dioxide generator			OCD model			
			162-5	162-10	162-30	162-60
ClO_2 production	[lbs/day (grams/hr)]		0.26 (5)	0.53 (10)	1.59 (30)	2.9 (55)
ClO_2 concentration	[ppm]		2000			
Max continuous ClO_2 dosing feed rate* (i.e. max. ClO_2 pump output at 20mA)	[gal/hr (l/hr)]		0.66 (2.5)	1.32 (5)	3.96 (15)	7.26 (27.5)
Consumption data	[gal/hr (l/hr)]	NaClO2	0.039 (0.15)	0.079 (0.3)	0.24 (0.89)	0.4 (1.5)
		HCl	0.042 (0.16)	0.087 (0.33)	0.26 (0.97)	0.44 (1.67)
		H20	0.69 (2.6)	1.35 (5.1)	4.23 (16)	8.5 (32)
Precursor concentration by weight		HCl	9 %			
		$NaClO_2$	7.5 %			
Precursor safety equipment			Capacity monitored via level control			
Temperature range	[°F (°C)]	Ambient	40 to 95 °F (5 to 35 °C)			
		Dilution H_20	50 to 85 °F (10 to 30 °C)			
		HCl & $NaClO_2$	50 to 95 °F (10 to 35 °C)			
Dilution water pressure	[psi (bar)]		44 to 87 psi (3 to 6 bar)			
Admissible relative air humidity			max. 80 %, not condensing			
Total volume - reaction tank	[gal (liters)]		0.26 (1.0)	0.48 (1.8)	1.6 (6.1)	3.5 (13.4)
Total volume - reservoir tank (up to max level alarm)	[gal (liters)]		0.26 (1.0)	0.48 (1.8)	1.85 (7.0)	3.67 (13.9)
Filling volume - reaction tank	[gal (liters)]		0.23 (0.87)	0.44 (1.67)	1.46 (5.52)	3.16 (11.96)
Filling volume - reservoir tank (up to max level alarm)	[gal (liters)]		0.23 (0.87)	0.44 (1.67)	1.72 (6.5)	3.43 (13.0)
Materials of construction		System rack	Polypropylene			
		Fastening sleeves	Stainless steel			
		Solenoid valve	PVC			
		Reaction/reservoir tank	PVC			
		Internal hoses	PTFE			
		Gaskets	FPM			
Connections		ClO_2 dosing line	1/8" ID x 1/4" OD tube		1/4" ID x 3/8" OD tube	
		Dilution water	1/4" ID x 3/8" OD tube			
		NPT adaptor	1/2" NPT connector			
Full text menu control		Commissioning	Yes			
		Operation parameters	Yes			
		Flush / rinsing	Yes			
		Maintenance	Yes			



Please verify the local legislation requirement with Grundfos for your applications.

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