



PRODUCTION OF CHLORINE DIOXIDE using diluted NaClO_2 and HCl solutions

General

Oxiperm Pro systems produce chlorine dioxide using diluted solutions of sodium chlorite (NaClO_2 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. These are sufficient to treat up to 150 m³ of drinking water per hour at the maximum admissible concentration of 0.4 mg/l ClO_2 . Chlorine dioxide is produced on demand from diluted solutions using the reliable sodium chlorite/hydrochloric acid method, in accordance with the German Drinking Water Directive.

The chlorine dioxide solution produced is stored in an integrated or external batch tank and is added to the drinking water system as required using the integrated dosing pump or an external dosing pump.

Applications

Ideal application areas for Oxiperm Pro include combating germs and pathogens, such as legionella in building installations, and disinfecting small cooling water systems or drinking water in water plants or industrial processes.

Chlorine dioxide is often used in the food and beverage industry for disinfection of process water or for CIP and bottle washing because it doesn't change the taste or smell of the treated water.

Oxiperm Pro OCD-162-5 and -10 systems are designed for small or medium-sized buildings with water flows up to 25 m³/h.

Oxiperm Pro OCD-162-30 and -60 systems are suited for disinfection tasks in waterworks or applications in the food and beverage industry.

Remark: Legislation on the use of disinfection products in water treatment applications are country specific. Please contact your local Grundfos sales office for further details on the use of our products in your application and area.

No chance for pathogens

The building operator is responsible for a hygienically faultless drinking water quality in the lines coming from the water supplier. This means that the legionella found at the tapping point must not exceed a certain quantity. Water in public and private buildings has to be examined regularly.

An ideal means of ensuring the purity of drinking water is to use chlorine dioxide as a disinfectant. Chlorine dioxide is highly effective against all types of germs and has a long dwell time in the tubing system, which means it disinfects even without re-dosing. The big advantage of chlorine dioxide over other disinfectants is its effectiveness against biofilms. It destroys the existing biofilm, thus removing the breeding ground for microorganisms, and prevents it from building up again.

Benefits of the Oxiperm Pro system

- Compact system, also for confined spaces
- Low operating costs
- Stable product solution, can be stored for several days
- Integrated measured value logging
- Little installation work
- Robust design

Technical data

Capacities	OCD-162-5: 5 g/h ClO ₂ OCD-162-10: 10 g/h ClO ₂	OCD-162-30: 30 g/h ClO ₂ OCD-162-60: 60 g/h ClO ₂																				
Protection level	IP 65 electronics, dosing pumps, solenoid valve																					
Admissible concentration of chemicals	<ul style="list-style-type: none"> HCl (according to EN 939) 9 percent by weight NaClO₂ (according to EN 938) 7.5 percent by weight 																					
Admissible temperature	<ul style="list-style-type: none"> Admissible ambient temperature: 5 to 35 °C Admissible operation water temperature: 10 to 30 °C Admissible chemicals temperature: 10 to 35 °C 																					
Admissible operation water pressure	3 to 6 bars																					
Admissible relative air humidity	Max. 80 % (not condensing)																					
Total volume of reaction tank and reservoir tank	<table border="1"> <tr><th colspan="2">Reaction tank</th></tr> <tr><td>OCD-162-5</td><td>1.00 litre</td></tr> <tr><td>OCD-162-10</td><td>1.80 litres</td></tr> <tr><td>OCD-162-30</td><td>6.10 litres</td></tr> <tr><td>OCD-162-60</td><td>13.40 litres</td></tr> </table>	Reaction tank		OCD-162-5	1.00 litre	OCD-162-10	1.80 litres	OCD-162-30	6.10 litres	OCD-162-60	13.40 litres	<table border="1"> <tr><th colspan="2">Reservoir tank (up to max. level alarm)</th></tr> <tr><td>OCD-162-5</td><td>1.00 litre</td></tr> <tr><td>OCD-162-10</td><td>1.80 litres</td></tr> <tr><td>OCD-162-30</td><td>7.00 litres</td></tr> <tr><td>OCD-162-60</td><td>13.90 litres</td></tr> </table>	Reservoir tank (up to max. level alarm)		OCD-162-5	1.00 litre	OCD-162-10	1.80 litres	OCD-162-30	7.00 litres	OCD-162-60	13.90 litres
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Concentration of chlorine dioxide solution	2 g/l (2,000 ppm)																					
Material	System rack PP Fastening sleeves stainless steel Solenoid valve PVC Reaction / reservoir tank PVC Internal hoses PTFE Gaskets FPM																					
Options	<ul style="list-style-type: none"> Integrated digital dosing pump DDA or DDI or mechanical dosing pump DMX for product solution OCD-162-5 and -10: without integrated dosing pump for product solution 																					
Connections	ClO ₂ dosing line 230 V hose 4/6 (162-5 and -10), 9/12 (162-30 and -60) 115 V hose 1/8" x 1/4" (162-5 and -10), 1/4" x 3/8" (162-30 and -60)	Dilution water 230 V hose 6/9 or 6/12 or PVC pipe DN 8 115 V hose 1/4" x 3/8"																				

Effectiveness diagram

