



Safe, reliable & efficient on-site generation of chlorine dioxide

iOX®: 5, 10, 20, 40 g/h ClO₂



Function

chloriDOS® iOX® range of systems provide a batch supply of chlorine dioxide solution for on-demand chemical dosing & disinfection applications, generated from chlorite/acid chemical reagent process.

The iOX® automatically draws and mixes precise volumetrically measured amounts of acid and chlorite, under vacuum, from respective chemical storage containers. The reacted chlorine dioxide solution is homogenised and diluted with a volumetrically controlled flow of cold water prior to dispensing into the integral storage tank under atmospheric pressure.

Retention time of the chlorite/acid mixing is continuously controlled within the generator and automatically diluted and dispensed into the product batch tank, the level of which is governed by electronic level sensors.

The iOX® accepts an external pulsed water meter signal input to conveniently record site water usage in combination with the integrated volumetric usage record of chemical reagents.

Benefits

- Batch preparation and dosing apparatus all fully contained within a single, lockable unit.
- Safe handling of chemical reagents drawn from containers under vacuum.
- Vacuum process eliminates need of chemical reagent dosing pumps and associated loss of prime and pump head maintenance.
- Batch dilution volumetrically controlled.
- Reagent consumption precisely governed by volumetric flow sensors optimising chemical usage.
- A second and third dosing pump can be connected externally for multi-point dosing.
- Simple and low maintenance frequency.
- Low whole life costs.

Features

- iOX® model range offers 5, 10, 20 and 40 g/h chlorine dioxide generation capacity.
- Durable and attractive plastic equipment cover with security lock facility.
- Easy to operate membrane keypad multi-lingual control panel & OLED display with green, amber and red LED operational status indicators.
- Operational parameters displayed with code protected programming.
- Alarm event log with real time clock recording.
- Volumetric measurement and data storage of chemical reagent consumption volumes and site water meter usage.
- Service Due & Reactor Replacement alert.
- Corrosion resistant PVDF valves and sensors.
- Modbus & Telemetry (optional) to monitor and alert chemical reagent usage, site water/process usage volumes, control status and data trending.
- Two-year product warranty.

Areas of Application

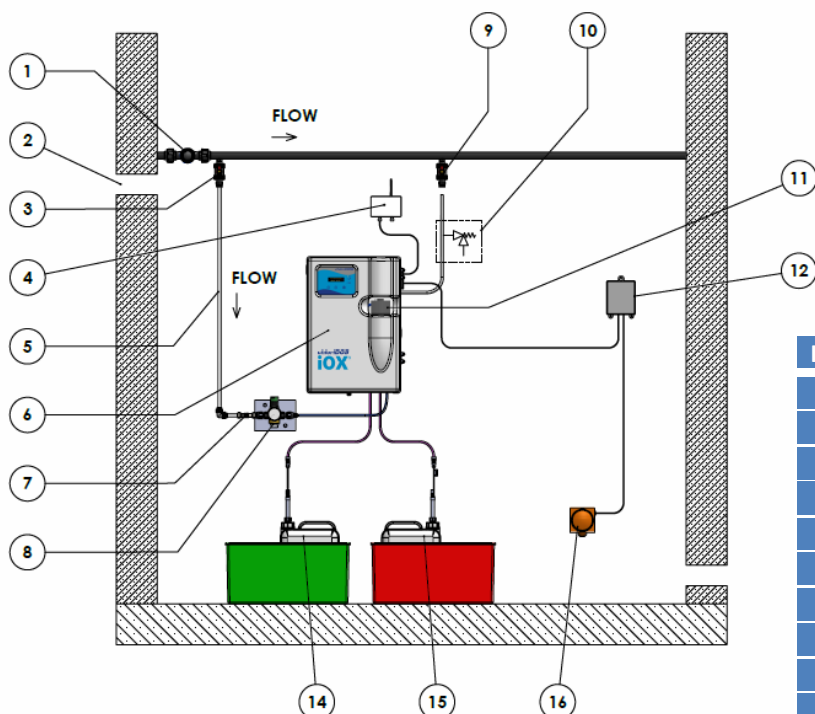
- Combating legionella in water systems
- Food & beverage CIP disinfection
- Cooling tower biocide treatment
- Food washing / processing treatment
- Municipal potable water disinfection
- Secondary disinfection in public buildings
- Commercial swimming pool filter hygiene
- Odour control in waste processes

Doc. v1.3

Product Description

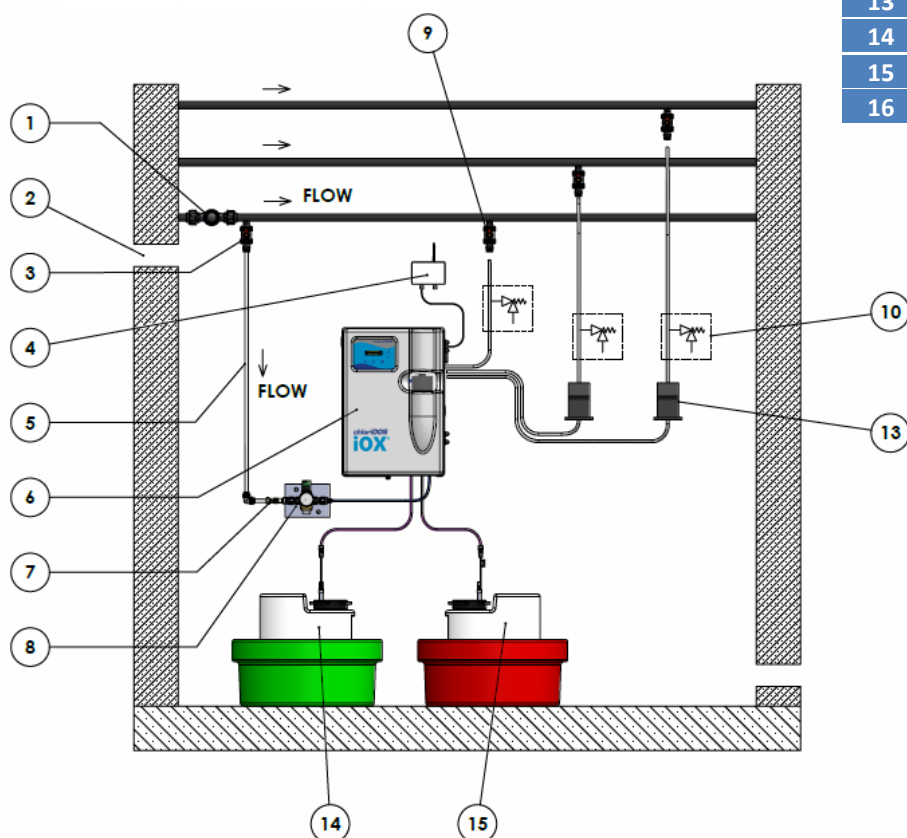
iOX® Installation schematics

Single-point dosing



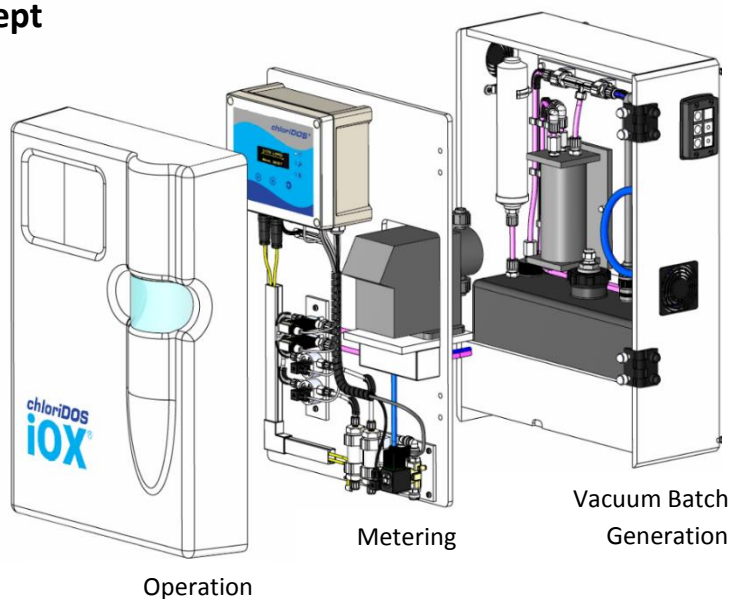
Item	Description
1	Site pulsed water meter (site)
2	Natural room ventilation (site)
3	Cold water feed isolation (site)
4	COMM's/telemetry (optional)
5	Cold feed pipe work (site)
6	iOX®I chlorine dioxide generator
7	Water supply double check valve (site)
8	Water pressure regulator/filter
9	CIO ₂ dosing injection point
10	Dosing retention/relief (optional)
11	Internal CIO ₂ dosing pump (optional)
12	Gas detect panel (optional)
13	External CIO ₂ dosing pump (optional)
14	Acid reagent drum/tank (optional)
15	Chlorite reagent drum/tank (optional)
16	Gas sensor head (optional)

Multi-point dosing

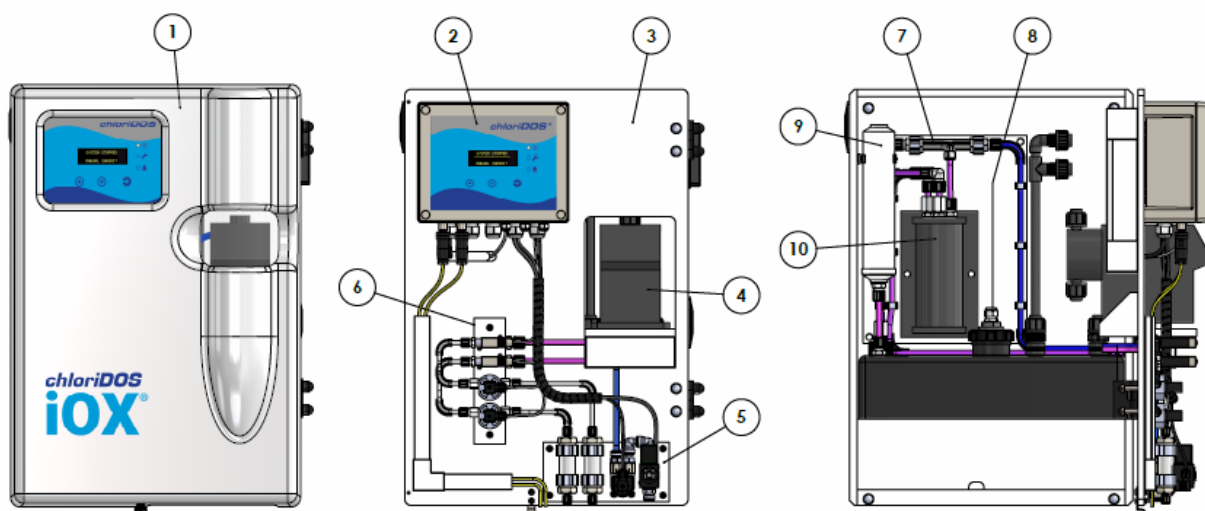


Product Description

iOX® Design Concept

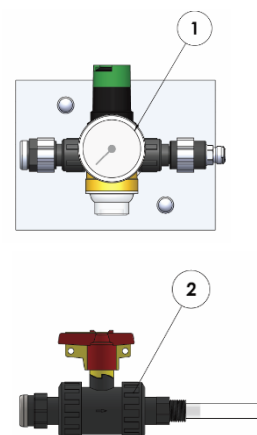


Feature Equipment



Item	Feature Equipment Description
1	iOX® plastic cover
2	chloriDOS® controller & OLED display
3	Hinged metering & control board assembly
4	Internal CLO ₂ dosing pump (optional)
5	Dilution water flow control
6	Chemical reagent flow control
7	Reagent vacuum & dilution device
8	Batch tank level sensor device
9	Batch tank carbon air scrubber
10	CLO ₂ reactor assembly
Item	Ancillary Equipment
1	Cold water supply pressure regulator/filter assembly
2	Dosing pump injection/isolation valve assembly

Ancillary Equipment



Technical Specification

iOX® Technical Data

Description	unit	chloriDOS® iOX® model capacity			
		5	10	20	40
Chlorine dioxide (ClO ₂) capacity	g/h	5	10	20	40
ClO ₂ generation strength	%	2*			
ClO ₂ batch solution strength	mg/l	500	1000	1500	
ClO ₂ batch solution production rate	l/h	9.5	10	13.5	26.9
ClO ₂ batch tank nominal volume	l	8.5			
Power supply	ø	110 - 240VAC / ø1 / 50-60Hz			
Power rating	VA	20			
Combined peak dosing pump output dosing pump(s) not included	l/h	15			30
Feed water pressure	Bar	2 to 8			
Nominal water consumption	l/h	9.6	9.4	12.4	24.8
Total reagent consumption 1:1 ratio	l/h	0.26	0.52	2.0	4.0
Protection class	IP	54			
Permissible ambient temperature	°C	35			
Permissible feed water temperature	°C	30			

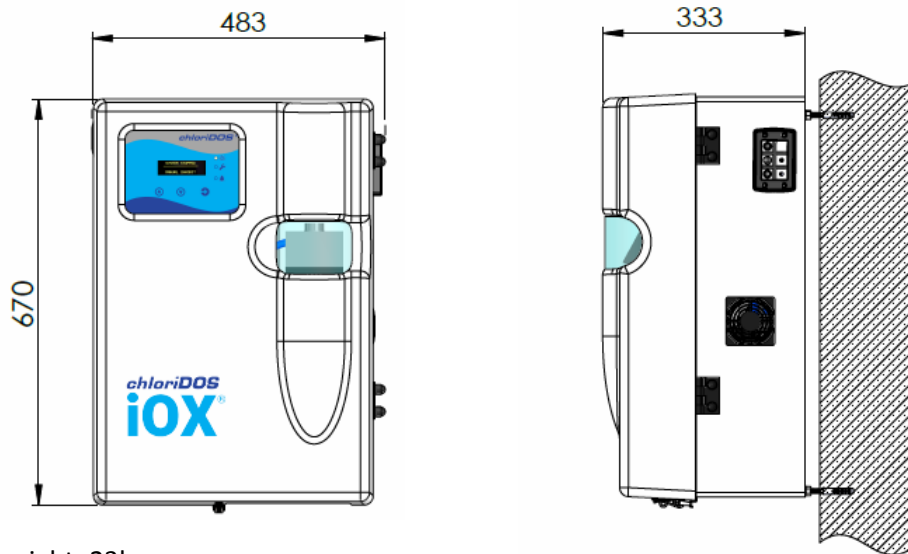
* precursor concentration (by weight): 9% HCl / 7.5% NaClO₂

iOX® Match-code System Build & Supply Information

Generator capacity				
G005	5g/h chlorine dioxide generator at 500mg/l ClO ₂ solution			
G010	10g/h chlorine dioxide generator at 1000mg/l ClO ₂ solution			
G020	20g/h chlorine dioxide generator at 1500mg/l ClO ₂ solution			
G040	40g/h chlorine dioxide generator at 1500mg/l ClO ₂ solution			
↓	Cover			
	C0	Grey cover hood		
	↓	Pump Configuration		
		P0	Without pump fitted	
		P1	With pump fitted	
		↓	Power Supply	
			V0	110Vac 50/60Hz
			V1	230Vac 50/60Hz
G005	C0	P0	V1	Match code order example

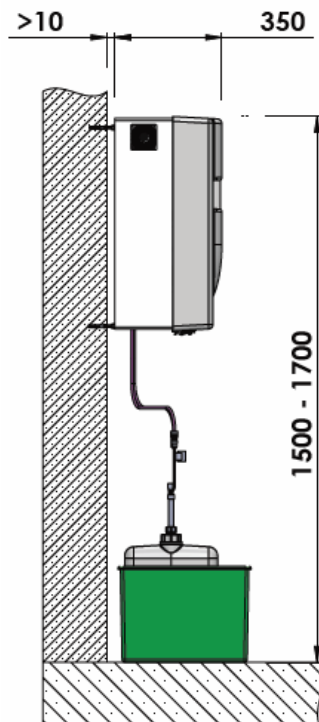
Dimensions & Weight

iOX® Overall dimensions

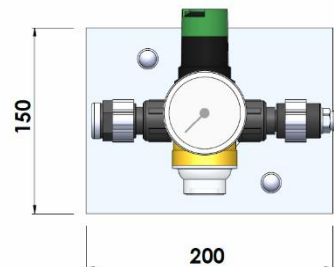


Shipping weight: 23kg

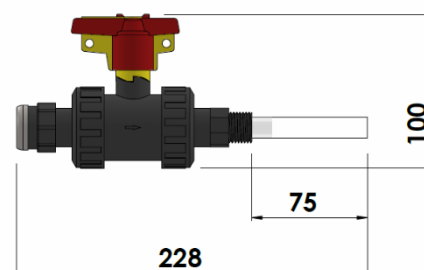
Recommended installation arrangement dimensions



Water PRV dimensions



Injection isolation valve dimensions



System Accessories

ChemiDOS™

iOX® smart digital dosing

chemiDOS dosing pumps are recommended for the reliable metering of chlorine dioxide solutions in combination with iOX®. Three specially adapted CDG-SLPxxPVT models are exactly suited to complement the the iOX® in respect to: capacity, material compatability and control functionality. Multi-lingual graphic digital display.



A single chemiDOS pump is designed to be mounted directly inside the iOX® units and/or mounted external to the iOX® unit, depending on dosing configuration and the application requirements.

Technical data

chemiDOS smart digital		Pump Model		
		CDG-SLP05PVT	CDG-SLP10PVT	CDG-SLP20PVT
Delivery capacity at max. back pressure	l/h	5.1	10.7	20.4
	ml/stroke	0.57	1.19	2.27
Maximum delivery pressure	bar	16	10	5
Delivery capacity at average back pressure	l/h	5.7	11.3	21.2
	ml/stroke	0.63	1.26	2.36
Average delivery pressure	bar	8	5	2.5
Nominal stroke frequency	rpm	150		
Valve size		DN3	DN4	
Tube connection sizes	mm ID/OD	4/6, 6/9, 6/12		
Voltage supply		110-240V, -10% / +5%, 50/60 Hz		
Power consumption	W	25		
Protection/Insulation class		IP65/F (with covering caps on the connections)		
Materials	Head	PVDF (PVDF tube connections)		
	Diaphragm	TFM-PTFE coated EPDM		
	Valves	Double-ball ceramic/ceramic/FPM (ball/seat/gasket)	Double-ball PTFE/PVDF/FPM (ball/seat/gasket)	
Weight	kg	2.2		
Approved ambient temperature	°C	5-45		
Approved media temperature	°C	80		

Dosing control features:-

Stroke frequency adjustment, analogue & pulse input, external start-stop, 2 slow-modes, stroke feedback, alarm relay output, batch dosing interval & timer, dosing amount displayed in various units.

System Accessories

Chemical dosing accessories



Pressure retention
valve assembly 6/12
LJ12500235



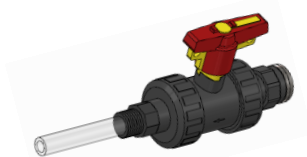
Pressure relief valve
assembly 6/12
LJ-PRV-6/12



Pressure retention & relief
valve assembly 6/12
LJ-PLRV-DN6



Injection valve
assembly 6/12
LJ-INJ-3



Injection point isolation valve
assembly
3051000



Reinforced PVC chemical
dosing tube 6/12
G0023



Skid systems with chemical
reagent lockable storage security



Chemical day storage tanks
(colours optional)



Rigid drum/tank chemical reagent
switched suctions



Chemical bund tanks
(colours optional)

System Accessories

chloriDOS® Communications / Telemetry

To take full advantage of the iOX® functionality: chemical reagent volume usage and minimum level warning alert, site water meter readings, system status and fault diagnosis, the chloriDOS® communications unit can provide all this information and more.

Communication is via RS485 Modbus ASCII. Optional telemetry upgrade can provide full Ethernet and 3G/GSM/GPRS communication, ideal for remote service monitoring and data trending. Further signal inputs can be connected to monitor other site conditions such as chlorine dioxide residual levels, temperature and external switch signals.



chloriDES® chlorine dioxide residual analyser

A compact analyser using potentiostatic measurement technology with continuous mechanical self-cleaning of electrodes. Measure, monitor and control chlorine dioxide levels in water tanks and water process streams to help provide reliable indication that disinfections levels are being maintained within the operational guidelines of the water process conditions. The analyser can be used to directly control an iOX® chemiDOS dosing pump to maintain minimum chlorine dioxide residual levels and act as a safety cut-out facility in the event of any under/over dosing situations. Includes automatic sample water flow rate stabilisation and sample safety flow switch.

chloriGAS® chlorine dioxide gas detection

For detection of ClO₂ gas to monitor local air environment at predetermined safety limits, with integrated visual and audible alarm with mute facility. Alarm and fault relays with fail-safe operation. Supplied with gas sensor 0 to 1 ppm ClO₂ range.



Water testing

The important task of carrying out chlorine dioxide residual testing and measurement can be easily and accurately performed using photometric test equipment. Portable test kits are ideal for site and service personnel wishing to confirm equipment operation and water conditions are within guideline conditions.

Authorized dealer:

Guldager A/S
Hejrevang 1-5
DK-3450 Allerød
www.guldager.com



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Gaffey Technical Services Ltd.
Unit 3A Newhouse Road, Huncoat Business Park, Accrington,
Lancs. BB5 6NT, U.K.
T. +44 (0)1254 350180 F. +44 (0)1254 350181 Email:
info@gaffecty.co.uk www.gaffey.co.uk

