

# CONTI+ oXan™ zero

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Drinking water disinfection



# INNOVATIVE & SAFE

## Free active chlorine (FAC) solution for clean drinking water

Drinking water hygiene is a very important topic and a big issue for us. We have extended our unique, comprehensive CONTI+ hygiene concept, which covers the phases PREVENTIVE | PERMANENT | ACUTE and offers maximum safety, to include our own disinfection solutions: CONTI+ oXan™.

For clean drinking water installations and systems, we offer CONTI+ oXan™ zero, a new disinfection solution that represents an ecologically and economically valuable alternative to conventional disinfection methods.

CONTI+ oXan™ zero is used in the following three phases:

### **PREVENTIVE**

For system disinfection after new construction or recommissioning of a drinking water installation before the initial inspection according to VDI 6023-1.

### **PERMANENT**

For the microbiological decontamination of drinking water installations during use, when the technical action values of the bacterial parameters are exceeded according to the German Drinking Water Ordinance (TrinkwV 2018), Annex 3, Parts I and II.

### **ACUTE**

To prevent hazards in the case of high or extremely high microbiological contamination.

### **CONTI+ drinking water customer service\***

To secure your properties and investments in the long term, CONTI+ offers property-related services, such as:

- Commissioning of dosing systems
- Training in microbiological decontamination
- Dosing system maintenance
- Performance of accompanying tests for compliance with the limit values of the TrinkwV 2018
- Drinking water hygiene test and sampling
- Preparation of a recommendation for action
- Support in the development of a treatment plan

### **CONTI+ sustainable packaging concept**

The CONTI+ oXan™ zero disinfection solution is available in sustainable bag-in-box containers or IBCs to reduce storage and transport volumes, and to prevent large amounts of waste and high disposal costs. By supplying ready-to-use concentrate, fresh water is added on site and transport volumes are reduced. The containers used are filled at our Wettenberg site in Germany.

# CONCEPTS & SOLUTIONS

Hygienic | Safe | Sustainable | Smart

With CONTI+ oXan™ zero, all drinking water installations and systems can be disinfected, regardless of the type of building and its function. Whether cold water or hot water installation lines: CONTI+ oXan™ zero can be put to effective use.

The ready to use, concentrated disinfection solution can be added to the drinking water installation by means of the CONTI+ oXan™ zero dosing systems, while adhering to the maximum additive levels and limit values of TrinkwV 2018.

## Benefits of CONTI+ oXan™ zero drinking water disinfection

- Hazardous substance-free drinking water disinfection in line with DIN EN 901
- Complies with the German Drinking Water Ordinance
- Residue-free elimination of germs and bacteria
- Bactericidal, fungicidal, virucidal, sporicidal and algicidal properties
- Abrasive removal of the biofilm culture medium
- Prevention of germ multiplication
- Disinfection during operation – no interruption of use
- pH neutral
- No corrosiveness at application concentration – material-compatible
- No toxicity to mucous membranes or eyes
- No cytotoxicity (cell or tissue damage)
- No phytotoxicity (plant damage)
- Substitute product for disinfectants with hazardous substance labels
- Sustainable production from water and salt – broken back down into water and salt
- TÜV-approved production system

## Product information\*

Product name	CONTI+ oXan™ zero	REG. NO. WIPO 018177385
Product designation	Neutral sodium hypochlorite eca	(ORP 960 mV, pH 6,9)
Active substance	Free chlorine (FAC)	< 1,0 g/l
Production process	Membrane cell process	Electrochemical activation
Product type	Oxidising agent, biocide	Ordinance on the notification of biocidal products under the German Chemicals Act (ChemBiozidmeldeV), N-86291
Composition	Free active chlorine produced from sodium hypochlorite	EC Nr.231-688-3
Intended use	Drinking water disinfection	TrinkwV. 2018 DVGW W623, W290, W213-I, W229 Substitution obligation, BGIA, DGUV, German Hazardous Substances Ordinance (GefstoffV) Para. 1(3) and (4)

\* This information is based on the current state of knowledge of the manufacturer/filler and is used to describe the CONTI+ oXan™ zero product in terms of health and safety regulations. Therefore, it does not in itself constitute a guarantee of specific quality characteristics relevant to contractual conditions for sale or trials. The user must always ensure that the product is fit for purpose. Please note: Use disinfectants safely. Always read the label and product information before use.

# Two-step operating principle

## Disinfection & cleaning

### Disinfection

#### i.e. establishment of sterility (step 1)

Residue-free elimination of bacteria, especially legionella, by destroying the cell membrane.

	Germ tested	Reduction rate [log]	Contact times	Dilution [mg/L]
Bacteria	Pseudomonas aeruginosa	6.4	30 sec	4
		4.8	30 sec	1
	Legionella pneumophila	4	30 sec	2
	Enterococcus faecium	5.2	120 sec	1
	Staphylococcus aureus	4.5	30 sec	2
	Escherichia coli	6.4	30 sec	2

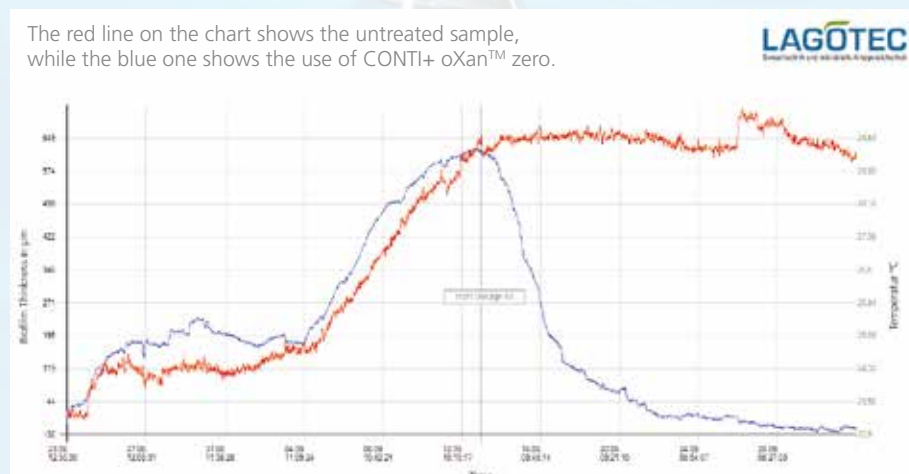
### Cleaning

#### i.e. complete abrasive removal of biofilm (step 2)

Biofilm is formed by a number of different germs and should be seen as a living organism. The microorganisms are embedded in a peptidoglycan layer that protects them against common disinfectants and insulates against the effects of heat. Colonisation takes place in hot and cold water pipework.

The test by the Lagotec Laboratory in Magdeburg is currently regarded as the most stringent, as it is carried out with natural biofilm and not with an artificial monolayer. This test clearly showed that CONTI+ oXan™ zero is capable of completely breaking down biofilms.

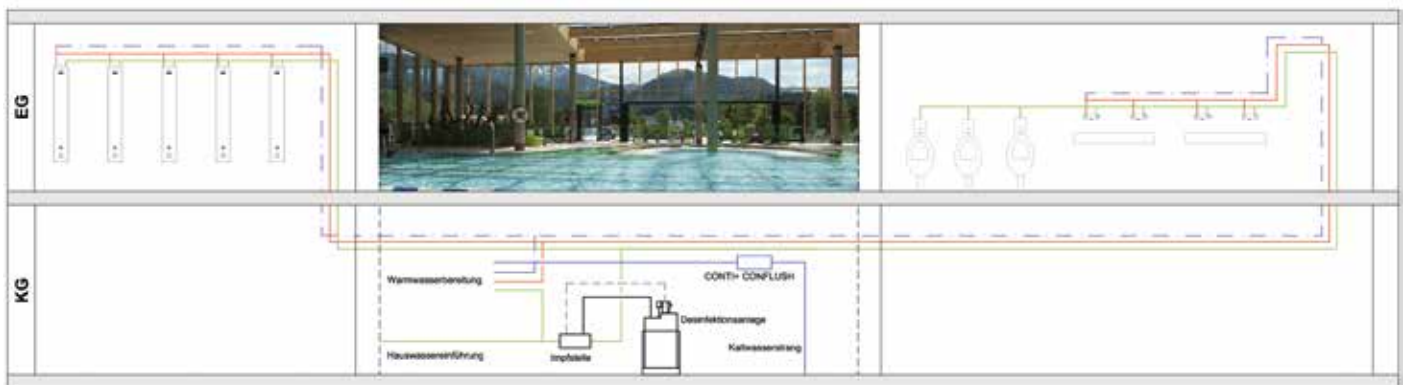
The red line on the chart shows the untreated sample, while the blue one shows the use of CONTI+ oXan™ zero.



## Application – 1

### Drinking water disinfection correctly applied

By means of a dosage quantity precisely matched to your consumption, all the drinking water can be disinfected safely and efficiently during operation, directly downstream of the connection to the property. Cold and hot water pipework is gently freed from biofilm over the course of several weeks, and kept that way with ongoing applications.



Application sections for microbiological decontamination (MBD)

- ① Carry out DPD and redox value measurements of the untreated drinking water.
- ② Start dosing CONTI+ oXan™ zero starten.
- ③ Carry out a DPD measurement (determination of free active chlorine – FAC) at the next draw-off point. The value of 0.6 mg must not be exceeded.
- ④ The DPD measurements should be carried out three more times per week.
- ⑤ After approx. 4 weeks, carry out the first redox value measurements (mV) according to instructions.
- ⑥ After reaching the required redox values, continue dosing until the end of the MBD process.
- ⑦ After completion of MBD – approx. 8 to 12 weeks, depending on the property size and consumption levels – the measurements can be checked and approved by an accredited laboratory.
- ⑧ Successful completion of MBD.

The success of disinfection and cleaning is checked by means of differential measurement of the redox potential at the various draw-off points. If the same redox values are found at the first and last draw-off points, then the microbiological decontamination process has been a success.

If there are dead zones or areas with germination sources in the drinking water installation that cannot be flushed, these can be localised via the given differential values of the redox potential at the draw-off points upstream and downstream of the germination source.



# Drinking water

## Production & use

### Production

The CONTI+ oXan™ zero production process complies with the German Drinking Water Ordinance (TrinkwV 2018, Para. 11).

The sustainable production method uses the exclusive **CONTI+ FDAS process** (Fraunhofer Diaphragm Activation Solution), i.e. the membrane cell process through electrochemical activation.

CONTI+ oXan™ zero is produced from the natural raw materials water and salt. Advanced membrane technology is used to prepare an environmentally compatible and non-toxic active chlorine (FAC) solution. The CONTI+ production systems with PLC control are TÜV-approved.

A finely tuned formula and the latest system technology ensure consistent and effective disinfection.

The process technology is continuously optimised from an ecological and economic perspective. Energy consumption for the production of CONTI+ oXan™ zero is minimised. High quality and reusable materials are deployed.

### Dosing systems\*

Optimum and sustainable for the purpose of adding CONTI+ oXan™ zero to drinking water installations.

The functionally reliable CONTI+ DOS solenoid dosing diaphragm pump with colour display screen prevents overdosing. The memory function for dosing strokes using a pulsed output water meter ensures the necessary dose even with very high water consumption. The pump fixing, which is separated from the dosing medium, is located on the dosing tank for long term use without adverse effects.

Sustainably reduced article variety through configuration of property-related dosing systems by means of pump/tank sets and dosing component sets.

Especially smart – mobilisation of dosing systems of all sizes with CONTI+ mobile dosing systems.

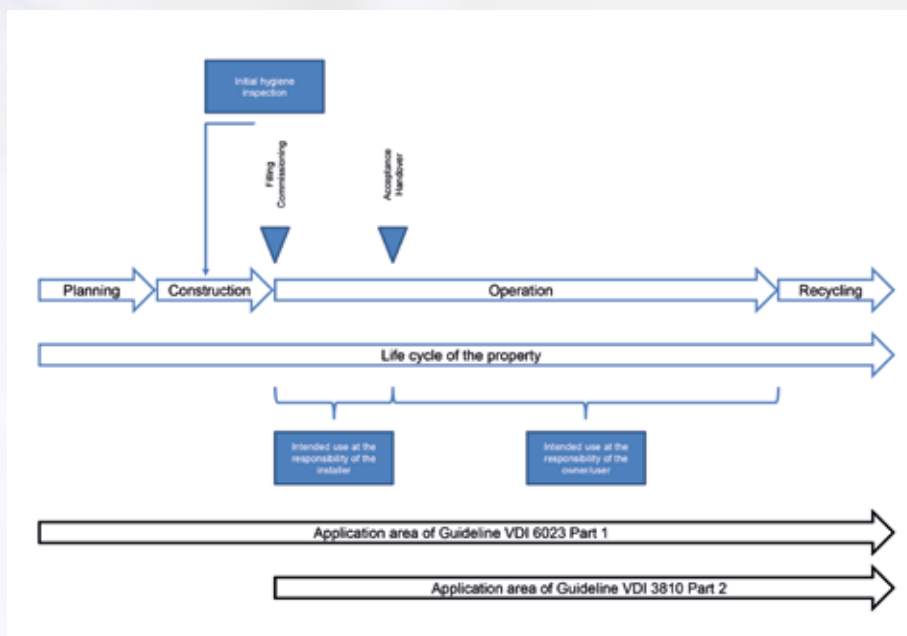


\*available in selected countries, contact CONTI+ for further details

# Application – 2

## System disinfection correctly applied

After a drinking water installation has been constructed or newly commissioned, flush the entire system with CONTI+ oXan™ zero. Fill the drinking water system with clean drinking water and sample without delay. According to VDI 6023, the recorded acceptance, handover and commissioning of the drinking water installation must take place no later than 72 hours after filling, in order to prevent subsequent microbiological impairment due to stagnating water.



Please note:

System disinfection is a measure that covers a drinking water installation from the contaminated area to the consumer's draw-off point. During system disinfection, suitable precautions must be taken to ensure that no water can be drawn from the treated system as drinking water.

## Reliable & innovative

For over 45 years, the CONTI+ brand has been recognised for flexible and holistic shower room and washroom solutions for public, semi-public and commercial environments as well as the health sector.

Known for its innovative technology and high grade materials, the brand has gained a reputation for unfailing quality. With a wide-ranging product portfolio and many years of experience creating custom designs, CONTI+ is now widely recognised among design engineers and architects for its valuable contribution to their projects. Every last detail is contemplated when developing tailor-made products, resulting in smart, individual solutions to suit a plethora of applications and equipment. The choice of shower and washbasin fittings encompasses a variety of colours and finishes as well as options for surface or flush mounting. Naturally, sustainability, hygiene and reliability are prime considerations in the development of all products.

Thanks to its dependable quality and innovative technology, CONTI+ has remained a trusted brand throughout the world for over 45 years.

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