DK-KONT®
301

Continuous chlorine
dioxide generation

DR. KUEKE
CHLORINE DIOXIDE

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We are an innovative chemical company from Germany based in Wedemark near Hanover and have specialised in the development and production of chlorine dioxide systems and biocide products since 1996.

As chlorine dioxide experts, we offer a wide variety of systems which meet the highest standards of quality and environmental awareness, and we seek long-term partnerships for this purpose.

Our mission is to reconcile technological leadership and regulatory requirements in a customer-oriented manner.

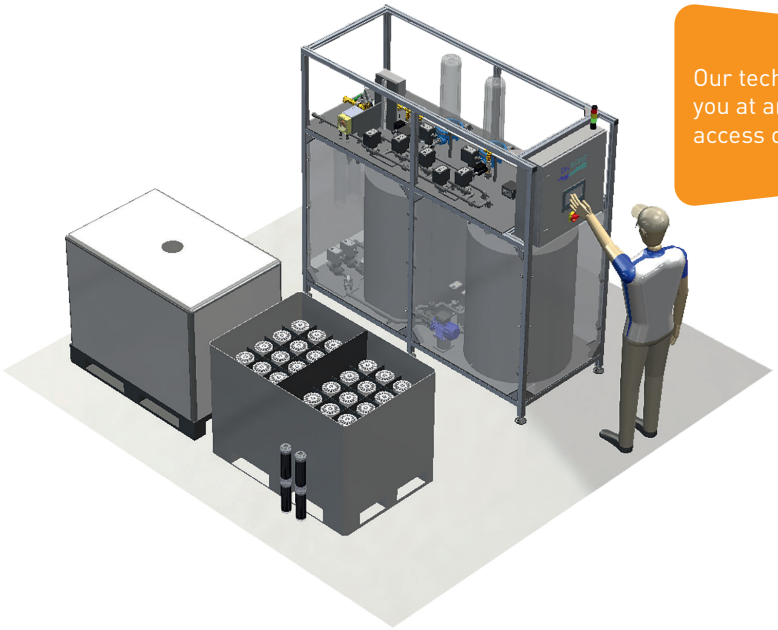
Disinfection reimagined

How DK-KONT® works

DK-KONT® is delivered completely ready for connection and ensures the continuous production and supply of chlorine dioxide.

Our in-house technical department has been developing, manufacturing and optimising our **DK-KONT®** chlorine dioxide systems for over 10 years.

A stable 0.5 % ClO_2 solution is produced automatically using the peroxodisulphate-chlorite process. The system has two generators with a ClO_2 output of 1.500 g per day.



Our technicians can assist you at any time via remote access over **LAN** or **Wi-Fi**.

The following information is displayed by default:

- Container level in real time
- Operating status
- Maintenance intervals

In addition, the following options are available for further customisation:

- Signal output to downstream systems
- Remote access via LAN or WLAN
- Coupling of two **DK-KONT®** for capacity expansion
- Stainless steel frame

Technology at a glance	
ClO_2-output	1.500 g / 24 h
Concentration of stock solution	5,0 g/l
Filling capacity of containers	2 x 300 l
Dimensions (W x H x D)	200 x 200 x 80 cm
Transport weight	320 kg
Operating pressure (water connection)	2 - 6 bar
Water consumption	285 l / batch
Power supply	230 V; 32 A; 50 Hz
Protection class	IP 65
Energy consumption	9 kW / 24 h

Materials at a glance	
Media contact	PVC-U, PTFE, FKM (chemicals) PE, EPDM, MS (water)
Frame	Aluminum (optional stainless steel)
Soils	PVC-U
Casing	PMMA Stainless steel screws

DK-KONT®

for ready-to-use chlorine dioxide solution

Coordinated components
are required for preparation:

- K1: chlorite solution
- K2: peroxodisulphate

The **DK-KONT®** has two containers in which the chlorine dioxide is generated through a pendulum process.

After a maturation period of 24 hours the 0.5 % chlorine dioxide solution is ready for use. During this time the components react with each other.

Process overview

Automated production process

1

At the start of each generation process, the gaseous phase remaining in the respective container is bound with water. This is achieved by supplying water via a preset number of atomisation processes.

2

Peroxodisulphate is then dissolved in warm water and flushed from the cartridge into the container.

3

In the final step, the chlorite solution is added and the mixture is then stirred. The 24-hour maturation period then begins.

One set is sufficient for 40 preparations of 1.500 g of chlorine dioxide. Once the component supply has been verified and one of the generators is empty, the system automatically starts a new preparation cycle. Alternatively, the system can be operated manually (e.g., for maintenance and repairs).

Requirements for the installation site

How to ensure an ideal installation site

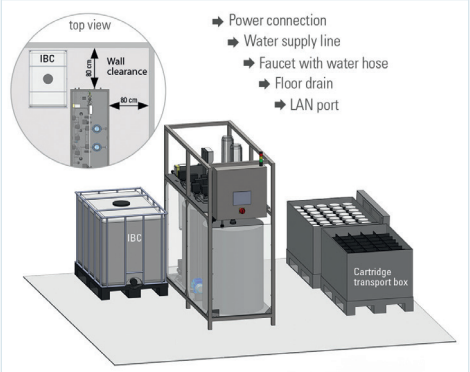
It must be ensured that the system can be delivered to the installation site and permanently installed without disrupting operations. The system must be connected to the water and electricity supply and the internet by the customer.

Power connection & network access:

- Installation by an authorised specialist
- The **DK-KONT®** is equipped with a 3G 6.00 mm² connection cable with a length of 3 m per default
- Provide network access via LAN or WLAN

Additional requirements for the location:

- An escape route is essential for safety
- A tap with a water hose and a lockable floor drain should be available so that any spilled chemicals can be safely removed
- Protective equipment must be provided for trained personnel
- Chemical containers must be able to be transported to the system without obstruction
- The system must be installed horizontally, free of tension and vibration
- The installation site must be secured against unauthorised access, protected from sunlight, frost-proof and well ventilated
- Free access from all sides for operation and maintenance must be ensured (minimum wall clearance 80 cm).



Schematic diagram of the system

Water quality – What matters

To ensure trouble-free and reliable operation of your **DK-K0NT®** system, we would like to kindly point out that compliance with the specified water quality requirements is of great importance.

- Water temperature: 10 – 30 °C
- Pressure: 2–6 bar (continuous)
- Quality: iron- and manganese-free drinking water, free of particles, non-corrosive, carbonate hardness < 7° dH
- Drinking water supply
- Water pipe cross-section and connection: 3/4" female thread
- According to DIN 1988, a system separation must be provided in the main water pipe

Your advantages – efficient & safe

Everything you need to know at a glance

- Few by-products such as chlorite and chlorate thanks to patented reaction control (see table below)
- Low corrosion potential, as the end product does not contain any chlorides
- Safe production:
  - 24-hour reaction time instead of spontaneous reaction
  - Solid/liquid system for starting components prevents mix-ups and mixing errors
- Once activated – stable for 6 weeks
- Cost-effective production through the use of concentrates
- Wide range of applications – from drinking water treatment to plant disinfection
- To expand capacity, two systems can be coupled in shuttle operation
- Reduced waste through to the deposit system for IBC tanks and cartridges (salt and activated carbon)
- Tailoring the system to the in-house feedstock components ensures a long service life and protects against unforeseen problems caused by variations in the chemicals used.

100% AGREEMENT AND 0% RISK

Chlorate concentrations of DK-KONT® and comparable products

Process	Period	Chlorate mg/l	Chlorate mg/l pro 1 mg ClO_2	Chlorate drinking water 0,2 mg/l ClO_2	Chlorate drinking water 0,4 mg/l ClO_2
DK-KONT® 2K 05 – 5.000 mg/l	24 hours	< 350	0,07	0,01	0,03
	28 days	< 800	0,16	0,03	0,06
DK-DOX® ClO2 3000	24 hours	< 200	0,04	0,01	0,02
DK-DOX® 2K 03	24 hours	< 250	0,05	0,01	0,02

Commissioning and training of customer employees as well as annual maintenance by **DR. KUEKE**

If the **DK-KONT®** is undergoing maintenance or repair, there is no need to interrupt operations of affected systems.

To avoid a disinfection gap, you can simply use the **DK-DOX®** 2-component system. When not activated, the components have a shelf life of five years and are extremely space-efficient.

Simply store them in your warehouse and mix them as needed – your solution will be ready-for-use the very next day and provide 100% redundancy for your system.

Customer references & images

Experiences of our satisfied customers

Heineken Switzerland
Process & Project Engineer

- The chlorine dioxide system has been running smoothly in automatic mode for 2.5 years
- DR. KUEKE was the most cost-effective supplier in the TCO calculation over 10 and 15 years
- We would choose this system and Dr. KUEKE again at any time

Wolters
Laboratory Manager

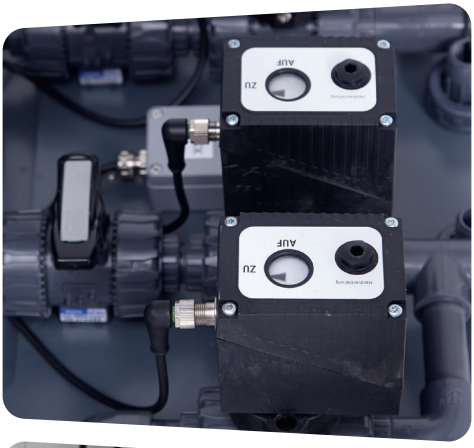
- Corrosion has not been an issue since we started using the DR. KUEKE chlorine dioxide process
- Cold water rinsing is safely carried out in bottle washing with 0.25 ppm ClO_2
- and 0.6 ppm ClO_2 is dosed into the cooling tower water

Flensburger Brewery
Technical Manager and Maintenance Team Leader

- Nearly constant chlorine dioxide concentration despite fluctuating operating water flow rates
- Especially at the beginning of the week, the stability and consistency of the solution helps us to quickly reach full capacity
- We are more than satisfied with the solution we have implemented

Kaiserdom
Managing Director and
Head of Engineering & Technology

- Easier handling of the original chemicals, high stability of the finished chlorine dioxide solution combined with high material compatibility
- Simple and clear operation of the system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Any questions?

DR. KUEKE
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Stamp trading partner

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