



# Ozonomic

The Krones solution for the ozonisation of water

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# Krones in-house solution for ozonisation



Ozone is one of the strongest oxidising agents and is used for disinfection. Its benefits: when dissolved in water, it reliably removes bacteria and viruses – and, after just a short time, breaks down without leaving any residue. It is for this reason that an ozone system is often connected upstream from conventional fillers when filling still water.

If you fill still water and a high product quality is your utmost priority, then the Krones Ozonomic is precisely the right choice.

## At a glance

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- Reliably kills viruses and bacteria
- Thanks to the integrated oxygen generator: a compressed-air supply is sufficient, no separate oxygen connection is needed
- Ideally designed to suit adjacent Krones technologies: water treatment systems from the Hydronomic series and fillers from the Modulfill range
- Various outputs: 15, 30, 45 and 60 m<sup>3</sup>/h

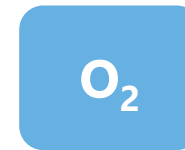


# Method of operation



The Ozonomic operates on the principle of “still electrical discharging”. In this principle, the oxygen flows through the ozone generator module. The high-voltage electrodes contained there discharge electrical energy, which causes oxygen molecules ( $O_2$ ) to split and ozone molecules ( $O_3$ ) to form.

Electrode  
Dielectric



Electrode

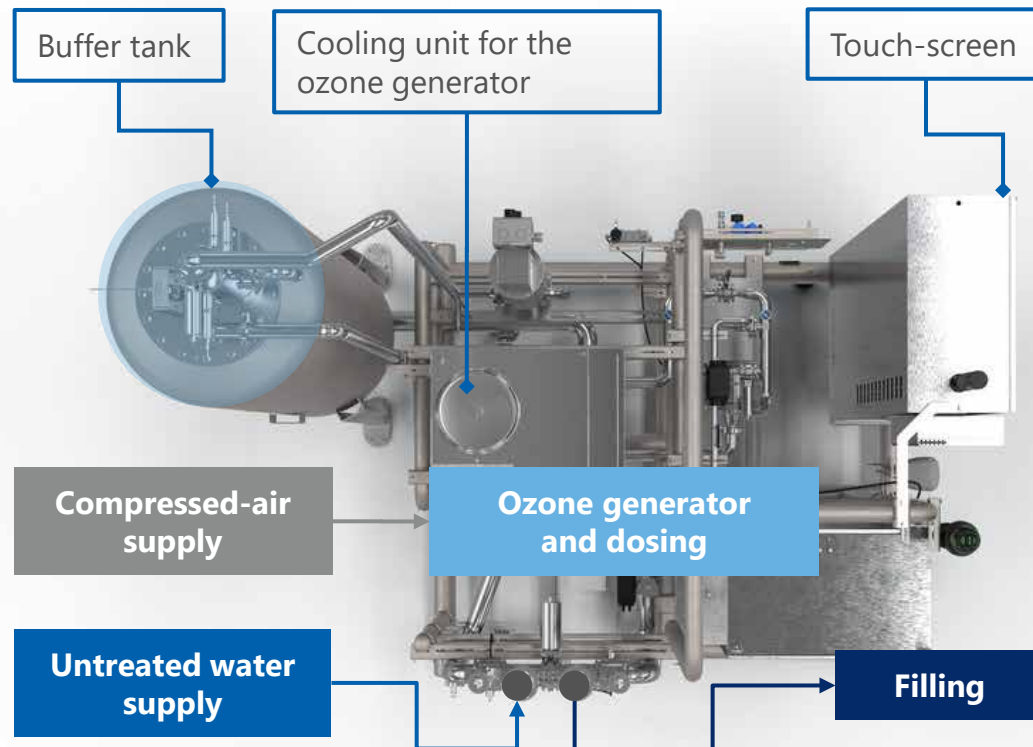


This ozone is then added to drinking water before filling. The typical dose is 0.4 mg/l water.

## Double disinfection effect

This not only ensures a reliable product quality, but also a hygienic filling process – as the ozone in the product water also sterilises the parts of the container and cap that come into contact with the product.

# Structure of the Ozonomic



## Highlights:

- **Highly efficient ozone generator**  
*Manufactured by Sewec (Germany)*  
An integrated oxygen generator firstly removes nitrogen from the supplied compressed air.  
→ The ozone generator is operated with up to 93 percent pure oxygen.
- **Stainless steel ozone injection system** (2 – 3 bar)  
*Type: Venturi*  
Efficient ozonisation output – even at high water temperatures or high pH values
- **Integrated cooling unit for the ozone generator**
- **Device for ambient air monitoring**

# Ozonomic as the perfect complement to the Hydronomic range



## Water treatment with Krones Hydronomic modules:

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- Media filtration (MF)
- Ultrafiltration (UF)
- Reverse osmosis (RO)
- Electro-deionisation (EDI)
- Mineral dosing station (MDS)



## Microbiological stabilisation before filling

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In conventional filling processes: **ozonisation with the Krones Ozonomic**



# Before deciding in favour of an ozone system check the bromide content



However, before any decision for or against an ozone generator can be made, a water analysis needs to be performed. Depending on the result and thus the untreated water quality, there are different process design options available:

## 1 Bromide content < 0.01 mg/l

The use of an ozone system in conjunction with conventional fillers is possible as the bromide content is below the usual limit values.



Krones Ozonomic



Conventional filling method

## 2 Bromide content > 0.01 mg/l

When it comes into contact with ozone, bromide is converted into bromate, which is in turn carcinogenic.

It goes without saying that bottlers will still not have to do without a microbiological stabilisation of their water in such cases – however a different procedure will be required:



Product filtration using  
Krones Unipure candle filters



Aseptic filling method

# Benefits to you



## Extremely low operating costs

No separate oxygen supply is needed for the conversion of oxygen into ozone. The Ozonomic operates on the basis of compressed air which, using an integrated oxygen generator, removes the nitrogen and thus creates an oxygen content of up to 93 percent.

## Always an efficient ozonisation performance

Integrated in the Ozonomic is an ozone injection system made of stainless steel, which works at a pressure of 2 to 3 bar. It ensures an efficient ozonisation output – even at high water temperatures or pH values.

## Highest hygiene standard

Adding ozone to drinking water not only stabilises the product itself. The ozone in the product water also sterilises the parts of the container and cap that come into contact with the product.

## Perfectly tuned to the filling system

The interaction between the Ozonomic and Krones filling system is also ideal. The systems technology and operability of both systems are perfectly adapted to one another and thus ensure a smooth process and easy operator handling.

## Uncomplicated start-up

“Everything from a single source” pays off already during start-up – the Krones service personnel starts up the Ozonomic directly with the rest of the Krones scope of supply – meaning that you not only save time, but also keep the amount of external personnel at the installation site low.

### Requesting a new machine

You can easily send a request for a non-binding quotation in our Krones.shop.



# After using the Ozonomic

## Appropriate Kronos filling technology



### Modulfill VFJ for still water in PET

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- Contactless free-jet filling for utmost microbiological safety
- Precise determination of the fill quantity via inductive flow meter or mass flow meter
- Perfect flow behaviour through infinitely adjustable flow speeds via the Proportional Flow Regulator (PFR)
- Highest hygiene level thanks to the Monotec design and servo drive technology
- Machine outputs of up to 81,000 bottles per hour
- Resource-saving and environmentally friendly thanks to enviro





# Everything from a single source



## Training sessions at the Krones Academy – trained personnel for an increased efficiency of your line

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The multifaceted offer by the Krones Academy ranges from operation, servicing and maintenance courses through to management training. We will gladly also create your individual training programme.

## High-quality components from Evoguard and Ampco

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Are you looking for shut-off, separation or control valves? For hygienic or aseptic applications? Would you like to have pump technology that perfectly fits into your machines? You will find exactly what you are looking for at Evoguard and Ampco Pumps. The two Krones subsidiaries cover the entire spectrum of process technology components that you need for high-quality production.

## Krones Lifecycle Service – Partner for Performance

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It goes without saying that also after the purchase of new machines, Krones takes care of your lines: The Krones LCS experts are always there to help you reaching your goals and turn your wishes into optimal LCS solutions.

**SOLUTIONS  
BEYOND  
TOMORROW**

