

# Safe protection against Legionella – with ProMinent

Reliable prevention and effective control in potable  
water circuits and process water systems

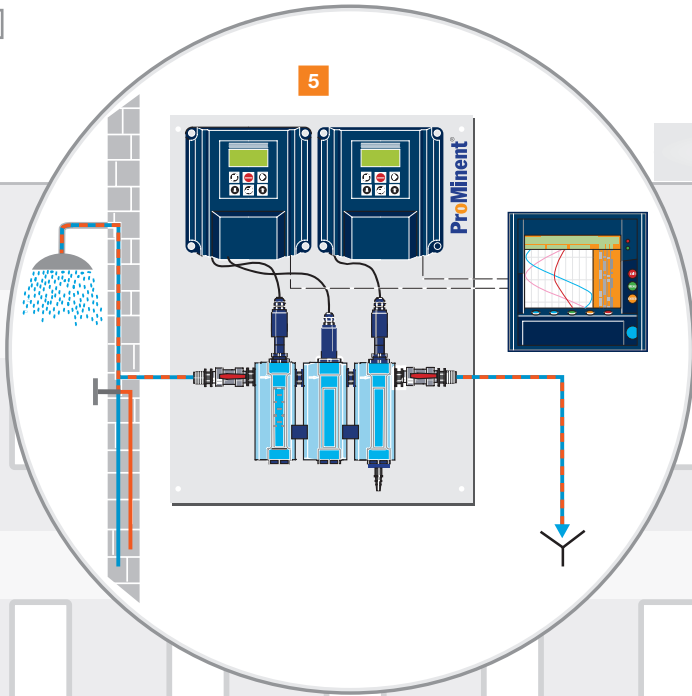
ProMinent®

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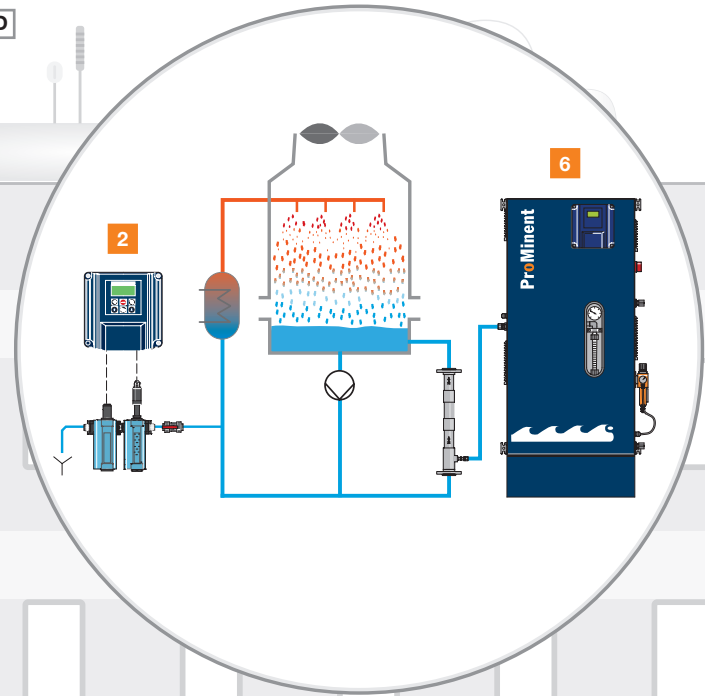


- A** Preventive treatment of the entire water supply with chlorine dioxide
- B** Selective treatment of individual cold and hot water lines with chlorine dioxide
- C** Online monitoring of the treatment by measurement of chlorine dioxide and chlorite
- D** Treatment of cooling circuits with ozone

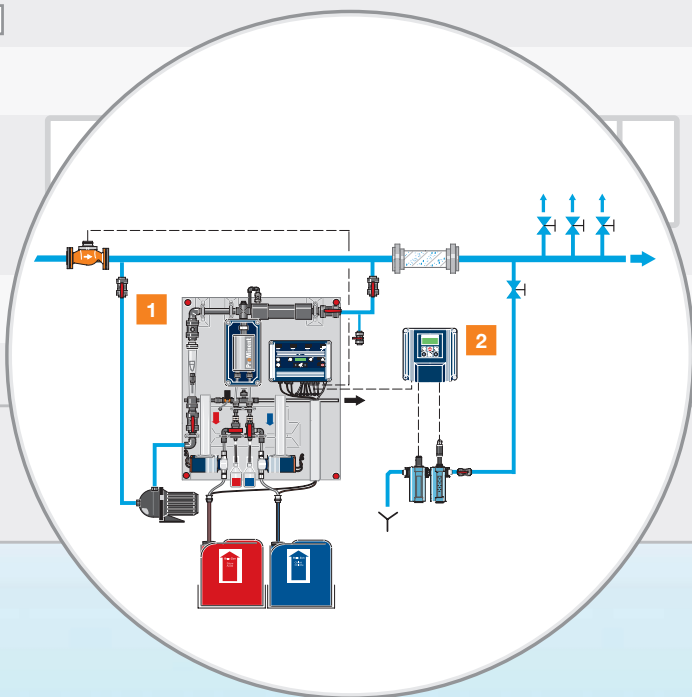
**C**



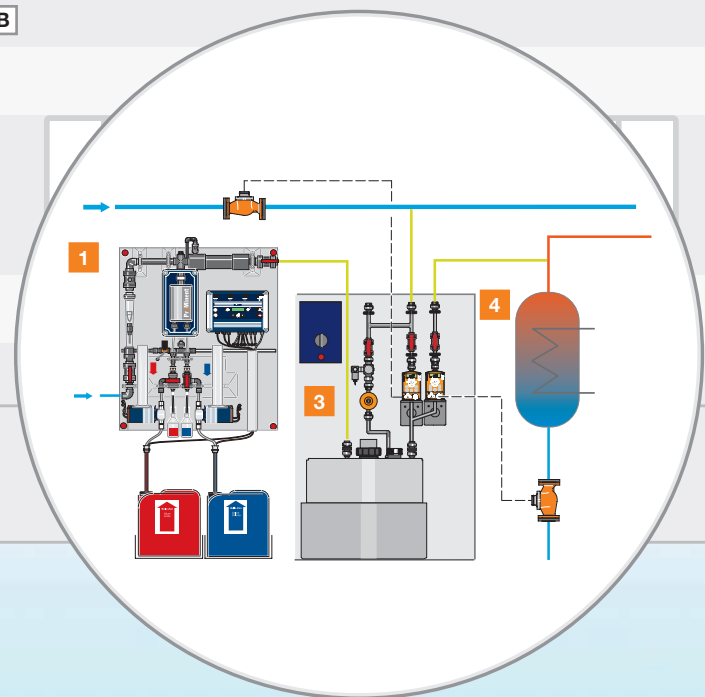
**D**



**A**



**B**



- 1** Chlorine dioxide plants Legio Zon® and Bello Zon®
- 2** Measurement and control technology DULCOMETER® and DULCOTEST®
- 3** Chlorine dioxide collecting module
- 4** ProMinent® dosing stations
- 5** Complete measurement station DULCOMETER® for chlorine dioxide and chlorite

# Water circuits without Legionella

Legionella occur frequently in nature – in natural lakes, puddles, or in damp soil. They represent a danger to humans when they enter the lungs. When water droplets contaminated with Legionella are inhaled, they cause Legionnaires' Disease, a serious lung infection that is often fatal.

Legionella need other microorganisms like amoebae, for example, in which to proliferate. So they find optimal living conditions in the biofilms present everywhere in water pipes and tanks. These slimy coatings of microorganisms protect Legionella and other pathogens against most disinfection methods.

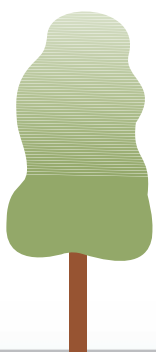
## Special risk areas for Legionella infestation:

- Showers in: hotels, hospitals, care homes, swimming pools and other sports facilities
- Spa pools and other aerated/agitated water attractions
- Ventilation systems with wet gas scrubbers
- Cooling towers
- All areas where water is sprayed

Chlorine dioxide and ozone are the most successful and economical disinfectants for controlling Legionella infestations in water systems, as they break biofilms down efficiently and prevent them re-forming.

## Protection against Legionella infestation thanks to ProMinent know-how:

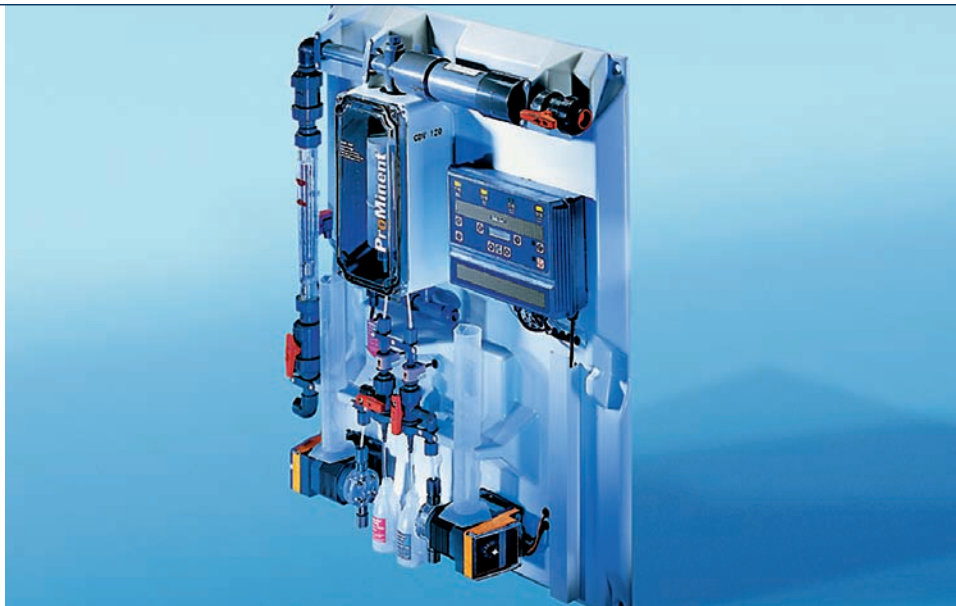
- Everything from one single source, from the expert: risk analysis, advice, process selection, engineering, installation, commissioning and maintenance
- Safe hygiene thanks to specialist knowledge in applied microbiology
- Reliable plant technology thanks to more than 30 years experience in the construction and use of chlorine dioxide and ozone plants
- Optimisation of investment and operating costs by preparation of customised service and maintenance concepts



## Systems for prevention Legionella

### Chlorine dioxide plants Bello Zon® CDV and CDK

This range is intended for treatment of large water quantities in continuous operation. Depending on the type, between 15 and 10,000 g/h of chlorine dioxide are produced. The plants are designed for industrial use and incorporate numerous control and report functions. They can also be operated dependent on measured value.



### Chlorine dioxide plant Legio Zon®

0-5 g/h of chlorine dioxide are generated and dosed in proportion to volume with this plant. The intelligent operation and maintenance concept enables safe, simple and reliable operation, as well as easy and cost-effective maintenance. The total process management is also suitable for intermittent operation.



# Safety through chlorine dioxide and ozone

Measures to prevent the formation of biofilm offer the best chance of success in achieving legionella-free water circuits.

Chlorine dioxide and ozone are the only potable water-compliant disinfectants that sustainably remove the basis for life from the legionella by actively breaking down the biofilm.

Because of its high residual effect, chlorine dioxide can even be used in extensive multi-branch potable water systems and is equally well suited for hot and cold water applications.

The advantage of ozone is its decomposition to oxygen without resulting residuals. It is primarily used in cooling circuits.

- Highest microbiological effectiveness even at low concentration
- No build-up of resistance
- Effect is independent of the pH value
- Remedial treatment of already infected systems without disrupting operation
- Low operating costs
- Safe online monitoring



## Ozone plants **OZONFILT®** and **Bono Zon®**

**OZONFILT®** plants produce up to 90 g/h of ozone from air or pressurized oxygen. Their key features are compact construction, easy installation and precise capacity control. Vacuum plants in the **Bono Zon®** range cover the capacity range up to 720 g/h.



## Measurement and control technology **DULCOMETER®** and **DULCOTEST®**

Statutory limits for disinfectants and disinfectant by-products under close control thanks to ProMinent's measurement and control technology: selective **DULCOTEST®** sensors for chlorine dioxide, chlorite, ozone, redox potential and pH value monitor all disinfection parameters online. **DULCOMETER®** controllers record and document all measured values.

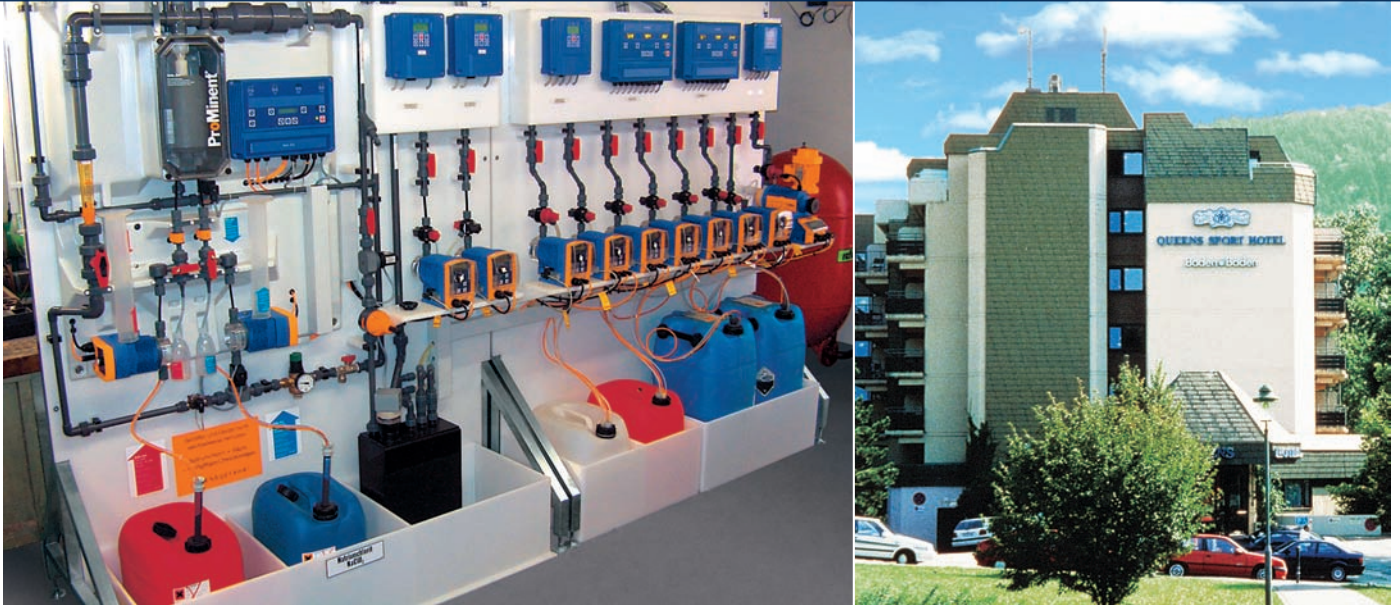


Further information:

[www.prominent.com/legionella\\_prevention](http://www.prominent.com/legionella_prevention)

Reference: Queens Hotel, Baden-Baden, Germany

# No Legionella thanks to chlorine dioxide



**“Our guests can expect a special standard here. That applies to the potable water too, in all areas of the hotel. With the ProMinent® chlorine dioxide plant, we fulfil all expectations with regard to clean, sterilised water particularly efficiently and economically.”**

Rainer Weiglein, Hotel director

The Queens Hotel in Baden-Baden, Germany, set itself the task of keeping all water pipework systems safely sterilised. ProMinent designed and implemented an extensive, complete solution based on chlorine dioxide disinfection.

## Challenge

- Sustained avoidance of biofilms and the associated breeding grounds for Legionella in hot and cold water pipework systems
- Extensive multi-branch pipework system covering five floors

## Solution

- Central Bello Zon® chlorine dioxide production and dosing system to supply the individual injection points
- Disinfection of the hot and cold water in accordance with the Directive on potable water
- Monitoring of the chlorine dioxide dosing using DULCOTEST®/DULCOMETER® measurement and control technology
- Documentation of the chlorine dioxide content at the furthest measurement point using a videographic recorder

## Customer benefits

- Reliable, monitored and documented disinfection of the hot and cold water
- Microbiological safety in the water and in other parts of the plant (pipes, boiler, filter)
- Reduction of the hot water temperature to 65 °C
- Elimination of thermal disinfection
- Reduction in staffing levels



Further information:  
[www.prominent.com/references](http://www.prominent.com/references)

# Global service locally



We already offer our service to you even if you are not yet our customer. Our pre-sales services ensure that you get the optimum solution for your individual needs:

- **Advice in choosing the products**
- **Application and process optimisation**
- **Project planning**

However, our commitment does not end with delivery. We offer you a comprehensive after-sales service, which lasts for the entire service life of your equipment.

That maximises your productivity and minimises your operating costs:

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- **Commissioning**
- **Maintenance**
- **Spare parts service**
- **Repair**
- **Troubleshooting**

Thanks to our worldwide presence in over 100 countries, our service is available wherever you need it.



Further information:  
[www.prominent.com/service](http://www.prominent.com/service)

## World-wide contact



ProMinent is at home in more than 100 countries of the world. This guarantees world-wide availability of the products and short distances to the customer. We offer you the same high quality standard in products and services worldwide. For you at your location: experience and know-how in water treatment and chemical fluid handling are available world-wide.

For detailed information, please visit our website [www.prominent.com](http://www.prominent.com)

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