



Fully automatic disinfection system

Water is both essential to life and important as a medium used in many industrial sectors. Yet, untreated water from nature can contain various types of viruses, bacteria, and germs, some of which can cause deadly diseases.

For this reason, it is highly important to have a hygienically pure supply of consistently high-quality water. This applies not only to the disinfection of potable water, but also to the disinfection of process water in industrial applications.

Typical applications are:

- ▶ Potable water disinfection, e.g., in residential and hotel facilities
- ▶ Treatment of process water in industry, e.g., in the beverage industry (CIP systems) or scrubber systems
- ▶ Disinfection of coolant circuits, e.g., in open cooling towers, re-cooling plants, or air conditioning systems
- ▶ Disinfection of the water in air humidifiers, air conditioning systems, or refrigeration systems
- ▶ Purification of the water in swimming pools without causing skin and eye irritation
- ▶ Disinfection of all sanitary facilities
- ▶ Waste water treatment in waste water treatment plants
- ▶ Treatment of waste water
- ▶ Decontamination of the water systems in animal breeding facilities
- ▶ Reduction of microbiological loads and algae growth in open waters
- ▶ Disinfection of complete hot and cold water systems in buildings

Solution

The Kunststofftechnik Weißbach company has developed an innovative and environmentally sound process that continually fights viruses and microorganisms, and legionella in particular, directly in water supply systems. Using only water, salt, and electricity, the specially designed system produces a highly effective disinfectant, which is neither toxic nor caustic. This is introduced at a low concentration directly into the conduit systems, where it disinfects the water continuously and sustainably. It also serves the purpose of removing dangerous biofilms in pipelines. Microorganisms are deprived of their basic food source on a long-term basis.

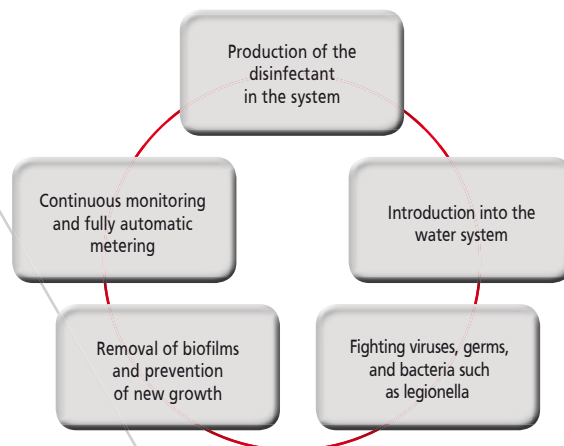


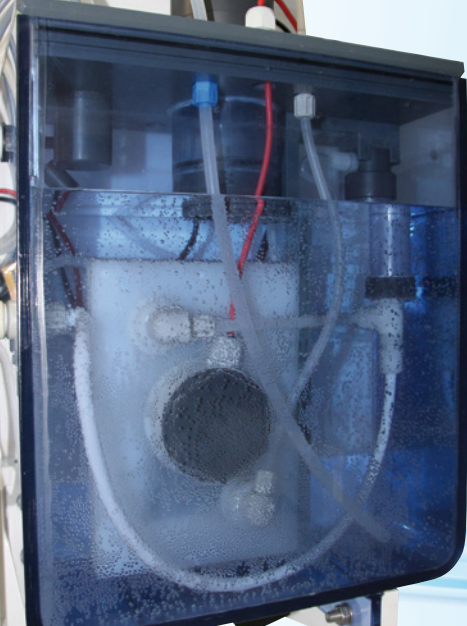
A fully automatic metering system continually monitors the concentration of the disinfectant, thus ensuring consistently high quality. The dose is precisely pre-matched to the individual application. The system enables continuous disinfection in accordance with the German Drinking Water Ordinance. Low operating costs and low maintenance requirements mean high economic efficiency.



Functional principle

The required quantity of disinfectant is produced by electrolysis using a precisely metered dose of sodium chloride solution (common salt). This disinfectant, Protectolyt, is a sodium hypochlorite solution. One liter of Protectolyt (with a concentration of 300 mg/l) can be used to sustainably treat 1,000 liters of potable water. This will disinfect the water and remove the biofilm, which will ensure the longevity of the media-carrying conduit. The purification process does not introduce any additional chemicals into the existing supply system.





Benefits

Compared to conventional thermal, chemical, or other processes that are currently in use, this system offers additional advantages:

- ▶ High level of hygienic safety due to continuous disinfection of water
- ▶ Reliable removal of viruses, germs, and bacteria, in particular legionella
- ▶ Removal of biofilms in pipelines or prevention of new growth
- ▶ Environmentally sound and material-saving process of water disinfection
- ▶ No need to use substances that are hazardous to health
- ▶ High economic efficiency due to low operating and energy costs, lower maintenance requirement
- ▶ Small space requirement due to compact dimensions
- ▶ Intuitive operation

▶ Technical information

Dimensions	WxHxD: 1,000 x 2,000 x 800 mm
Removal of	Viruses and bacteria, in particular legionella
Disinfectant volume	70 l/h
System components	Electrolysis unit, brine tank, water tank, supply and drain lines/PLC
Operating media	Salt, water, electricity
Metering	Fully automatic
Energy supply	230 V/10 A
Connections	Water, electricity
Power	~500 W



Kunststofftechnik Weißbach GmbH

The medium-sized company has been producing custom plastic solutions for 20 years.

Production has steadily expanded with the assistance of superbly trained skilled workers and the use of continually updated machinery. At first, the company specialized in plant and swimming pool construction, but increasingly its focus shifted to the processing of semi-finished plastic products for technical parts, containers, and machinery for the manufacturing industry.

Today, 45 employees in Gornau produce a wide range of components and containers, right through to large-scale, complex systems for mechanical and plant engineering applications, medical and environmental technology, and the semiconductor industry.

An in-house development department works on innovations and continually increasing efficiency. This expertise, the company's own engineering office, and its technically and technologically cutting-edge production processes ensure all-round, high-quality support for clients. An ever-increasing number of international customers are also coming to trust the "Made by KTW" label, from the initial concept to the final product.

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