

FOOD

NEW PURIFICATION PROCESS REDUCES WASTE WATER AMOUNT AND CHEMICALS CONSUMPTION



Combination of state-of-the-art technology and traditional beer brewing

The Füchschchen Alt beer has been brewed in the historic city of Düsseldorf since 1848. The spatial conditions demand high standards of new plant

THE COMPANY

**ADDRESS**

Brauerei und Wirtschaft
"Im Füchschchen" Peter König e.K.
Rateringer Strasse 28
40213 Düsseldorf

INTERNET

www.fuechschchen.de

ESTABLISHED

1848

LINE OF BUSINESS

Beer brewery

EMPLOYEES

104

INITIAL SITUATION

Since 1848 the brewery "Im Füchschchen" has been producing Düsseldorf's most favourite drink. The company brews 32,500 hl of so called "Altbier" (a special, dark type of German beer) annually, 70 percent of which is filled in kegs and 30 percent is bottled. In 2009 the brewery wanted to reduce the shrinkage of beer consumption as well as the organic waste water contamination caused by yeast and beer residues. The problem, however, was that due to the confined spatial conditions which are typical of the historic city of Düsseldorf, there was no way to install a conventional waste water treatment facility in the form

of a neutralisation. In this situation the brewery contacted the Effizienz-Agentur NRW via their bank, the Stadtsparkasse Düsseldorf. The EFA specialists focussed on existing efficiency potentials in the production process. An initial assessment of the potential was carried out by the Effizienz-Agentur NRW. A following resources efficiency consulting made a detailed analysis possible. On the basis of the results, an innovative concept for an integrated purification process by means of one single CIP plant inside a craft brewery was developed for the first time and eventually implemented in 2011.

Saving resources. Strengthening the economy.

MEASURES AND ADVANTAGES

The new CIP plant (CIP stands for "Cleaning in Place") is adapted to the spatial conditions of the craft brewery. The individual plant is able to clean both the filtrate-free and the filtrate side.

Due to the confined spatial conditions, an external suction line was developed to make sure that containers such as return water containers can be operated independently from the installation site of the CIP plant. With an inductive quantity and flow rate control all purification functions and steps such as the dosage of the detergents are controlled automatically today. The system controls whether the programmed amounts of detergents are pumped through the system with the required pressure and flow rate. This means turning away from the usual time and conductivity-controlled CIP systems.

Lower mixed phases of water and beer lead to a clear reduction of the waste water load. Furthermore, the spreading of alkaline solutions and acids during the phase separation could be reduced, with the consequence that

detergents are saved and the waste water is less contaminated. The brewery "Im Füchschen" invested € 150,000 in total and saves approx. € 20,500 a year.



The innovative CIP plant leads to lower mixed phases of water and beer as well as to a clear reduction of the waste water load.

Savings of the CIP plant as opposed to the manual purification

EQUIPMENT

Water/waste water

Alkaline solution

Acid

AMOUNT

3,304 m³ / p.a.

7,920 kg / p.a.

4,000 kg / p.a.

THE WAY TO FINANCING

As a part of the project financing, the Effizienz-Agentur NRW supported the private brewery. After the EFA advice, the company applied for subsidies from the investment

programme "Abwasser NRW, Förderbereich 1.1, Innovativer PIUS", with the NRW.Bank. The project was funded with a 50-percent subsidy.

The project partner

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