



Gnus



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Reference

BalanceCon, Water works Uevекoven

The Company

Based in Heinsberg, the company Kreiswasserwerk Heinsberg GmbH is the drinking water supplier for the approx. 12600 citizens of Erkelenz, Hueckelhoven, Wegberg, and Wassenberg. Via approx. 880 km of pipes and more than 34000 house connection lines, drinking water is distributed from water works in Uevекoven, Matzerath, Beeck, Arsbeck, Wassenberg, and Holzweiler.



Kreis
Wasserwerk
Heinsberg



Water works Uevекoven

The challenge

In Uevекoven, the drinking water treatment contains a deacidification step with three separate aeration columns. Physical deacidification is realised in a downward flow of the water over packed columns with a counterflow of air, supplied by an external blower. The amount of removed carbon dioxide can be adjusted via the amount of air supplied by the blower. Frequent changes both in composition and quantity make an automated control system desirable. To ensure an energy-efficient control of the deacidification, it is vital to measure the lime aggressivity of the water coming out of the aerator columns. A high precision measurement is required for this type of control.



Reference

BalanceCon, Wasserwerk Uevekoven

Our solution

The measuring and control system BalanceCon® by Dr. A. Kuntze GmbH is excellently suited for the task. It measures the pH of the water, while an integrated pump feeds part of the water via a marble filter to a second pH measurement. The stepmotor-controlled pump ensures a defined and constant contact time within the marble filter, so that the water for the second pH measurement is definitely in a state of calcite equilibrium. Via the difference between the two pH measurements the deacidification process can be controlled with a very high precision. Changes between the two pH sensors are periodically determined by an automated zero-calibration of the difference measurement. With this measuring system a control accuracy of < 0.02 pH is feasible.



BalanceCon



Werner Zohren

Customer's Feedback

To enhance the energy-efficiency, the blowers were equipped with an electronic rotation speed control. The air flap can now remain fully open, while the measuring and control system BalanceCon controls the deacidification efficiency. The high accuracy of the measurement allows an optimal blower adjustment to all water changes, resulting in energy savings of more than 75%. We are entirely satisfied both with the measuring and control system BalanceCon® and with the service of Dr. A. Kuntze GmbH.

Werner Zohren, Divisional director, Kreiswasserwerk Heinsberg GmbH



Testing

Pilot plant Esch-sur-sûre

Reliable Ozone control

Our measuring and control systems Krypton K passed the performance tests in the IWW laboratory with excellent results. That the performance is just as good under real measuring conditions, has now been demonstrated by Krypton K O₃ at a pilot plant in the water works Esch-sur-Sûre in Luxembourg. Over a period of six months the long-term stability and reliability were tested. With Ozone concentrations varying from 0.2 to 0.8mg/l, the average measuring deviation was 0.027mg/l, the long-term drift 0.05% per day, which means a deviation at the end of a 40 days calibration interval of 0.004mg/l at a concentration of 0.2mg/l of Ozone. Over the whole period of six months no manual maintenance was carried out. And since calibration consists only of a two-key combination, the operational availability was determined to be 99.5% - the 0.5% deduction taking into account the five minutes per day of polarization after the automatic self-cleaning, during which the signal is frozen.



Krypton K

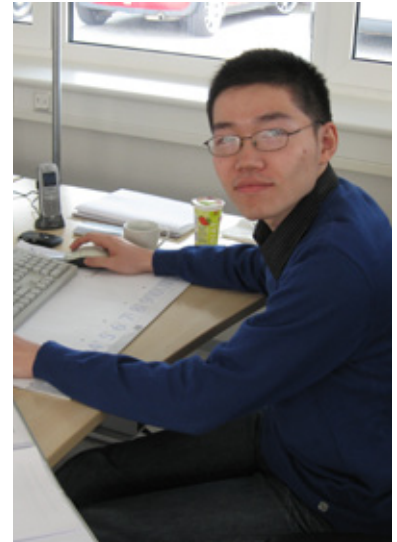


Pilot plant at the river dam Esch-sur-sûre, Luxembourg



Another software engineer at Kuntze

After finishing his studies at Jiaotong University Shanghai as Bachelor of Engineering in 2003 and two years of engineering work in Shanghai, Kaiming Wang achieved a Master of Science at the Technical University of Berlin in 2009, mayor subject: automation. During his master study he participated in a variety of research projects. In April 2010 he has finally joined the development team of Dr. A. Kuntze GmbH.



Kaiming Wang

To book

- May 5/6 5. North bavarian drinking water conference, Gemünden am Main
- May 19 Innovation day 2010, IWW Mülheim
- June 6 Run4ideas: company run in Düsseldorf
- Sep 13-17 IFAT, München

Imprint

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