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Case Study
Industry

# State of the art water treatment technology for a forging works in Saxony, Germany

## Environmentally friendly disinfection of cooling water in Gröditz with OSEC® NXT electrolyzer and upgraded measurement and control

Schmiedewerke Gröditz is a leading manufacturer of open-die forgings, tool steel and rolled rings. Its products are manufactured for various industries worldwide, such as energy engineering and railway technology. The forging works operates in a future-focused, environmentally friendly manner within a closed material cycle. Particular emphasis is placed on quality and precision.

> „These initiatives for cost savings and investment in greater occupational safety work hand-in-hand for greater environmental protection."
>
> Jürgen Vollbrecht, area manager north-east Xylem

### The challenge

Various cooling towers are operated in the water treatment plant at the forge. Disinfection is carried out using expensive biocides, which are also environmentally problematic for rivers when discharged directly. The company was therefore looking for new, efficient and cost-effective disinfection technology to solve these issues.

The team had identified they wanted to utilise electrolysis for disinfection, requiring only harmless common salt, to increase safety. The sodium hypochlorite solution produced on-site during electrolysis is produced on demand, so no storage is required.

In addition, the site's entire measurement and control technology, as well as the dosing systems, were also to be renewed. The plant wanted to minimise the use of chemicals and regulate chlorination via a setpoint value. This would ensure that only the correct amount would be dosed, reducing wastage.

**Challenge**
New water treatment for cooling towers in a forging works

**Customer**
Schmiedewerke Gröditz GmbH, Germany

**Solution**
- OSEC® NXT 36 Electrolyzer
- 2x DEPOLOX® Pool Compact measurement and control device
- 3x Membrane dosing pumps with stepper motor

**Project results**
Highly efficient technology for maximum operational reliability

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## The solution

Following advice from Evoqua's field service manager, operators selected the OSEC® NXT chlorine electrolysis system for their application. This technology was selected as it offered:

- Sustainable and reliable disinfection
- A higher chlorine concentration than comparable electrolysis systems
- Lower chemical costs than expensive biocides
- Fewer chemicals in the wastewater
- Improved occupational safety, as hazardous substances are avoided and the operator would only need to handle common salt

The OSEC® NXT chlorine electrolysis system is controlled by the measurement and control system with the DEPOLOX® measuring cell. Even in contaminated cooling water, quartz sand cleaning ensures stable chlorine measurements and maintains the target chlorine value. The conversion, which the operator carried out in close cooperation with Evoqua, required very little modification to the premises, as the electrolysis system is very compact and clearly laid out. Two measuring stations were installed, each with a DEPOLOX Pool Compact device and three stepper motor dosing pumps with a wide dosing range of 1:2000.

In the background: OSEC NXT system with the white salt dissolving tank on the left side

New membrane dosing pumps

## The results

The project was a success. The new measurement and control technology and telectrolysis system easily meet the site's requirements for performance and water quality. Converting the plant went smoothly and on schedule and the operator is extremely satisfied with the end result, including significant cost savings and speed of return on investment.

The improved working conditions and the elimination of hazardous substances are hugely positive benefits to the business.

One of the two DEPOLOX Pool Compact devices

Evoqua Water Technologies GmbH
Auf der Weide 10
89312 Günzburg
Germany

+49-8221-904-0
wtger@xylem.com
**xylem.com**



Gröditz Forging works OSEC-NXT EN.CS.0925

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