



Keeping waterborne diseases at bay with electro-chlorination

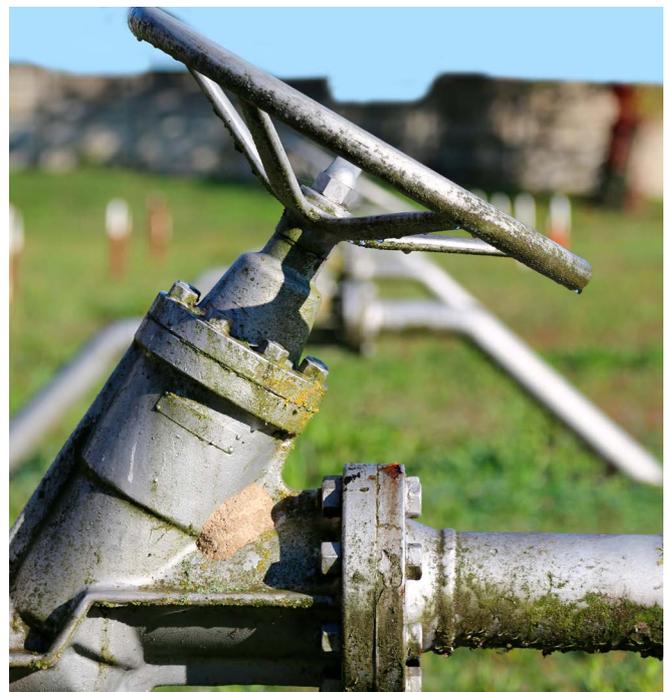
For decades, chlorine has been the most widespread disinfectant used in the treatment of drinking water. Like many others, the Ninewa Directorate of Water used to rely on chlorine to provide safe drinking water to consumers in and around the remote village of Sinjar in Northern Iraq. But due to budget constraints and limited access to chlorine, the directorate started looking for alternative solutions to ensure a steady supply of safe water to the 15,000 residents in the Sinjar area.

With funding from the Australian government, Save the Children International worked closely with Grundfos and the Directorate of Water in Ninewa to provide safe water to the people in Sinjar. Today, a Grundfos Selcoperm electro-chlorinator is helping protect children and their caregivers in the Sinjar area against waterborne diseases.

The challenge

The Iraqi government used to provide chlorine to the Directorate of Water in Ninewa but with an armed conflict in the area, the government had to stop the deliveries. The reason for the halt was twofold: It was partly due to concerns that the toxic gas could be stolen by terrorist groups and be used as a lethal weapon, and partly because of a drop in the price of oil which is a main source of income for the Iraqi government. With limited funds to spend, and stopping the armed conflict as their top priority, the Iraqi government was unable to meet demands for chlorine in areas such as Sinjar.

As a result, water in the area was not disinfected before being transferred to target populations, putting them at risk of waterborne diseases such as diarrhoea and typhoid.





Selcoperm electrolysis system

Selcoperm systems produce sodium hypochlorite electrolytically, directly from a solution of common salt using electricity. On-site production of the disinfectant solution means maximum safety at minimum costs. In the electrolysis cell, caustic soda solution, hydrogen and chlorine are generated. The chlorine reacts immediately with the caustic soda solution, resulting in a sodium hypochlorite solution, which is the disinfectant.



The solution

To find a solution to the challenge in Ninewa, Save the Children International assessed the situation and reached out to Grundfos who suggested using electro-chlorination: A cutting-edge technology that uses common salt, water, and electricity to produce a sodium hypochlorite solution that can then be used to disinfect water. The technology was provided by Grundfos in the form of the Grundfos Selcoperm electro-chlorinator for commercial water disinfection.



While the technology behind Selcoperm is very advanced, the product itself is easy to operate:

“What makes Grundfos Selcoperm unique is that it makes such a complex technology so accessible,” Waleed Noubani, Senior Key Account Manager Municipal, Grundfos Gulf Distribution FZE explains and continues:

“When we suggest the Selcoperm electro-chlorinator to clients, they are sometimes hesitant at first because the science behind it is so advanced. But we offer hands-on training to staff members at their facilities and after going through the thorough training, they often find that the solution is actually very manageable for

them. It is a safe and efficient solution that enables our customers to produce safe water with easily accessible ingredients.”

The outcome

With the Grundfos Selcoperm installed, Sinjar no longer relies on the Iraqi government to send them chlorine for water disinfection. Furthermore, the new system does not pose a safety hazard for staff members as chlorine does, and it has proven to be the reliable solution that the Ninewa Directorate of Water needed to be able to provide safe water to the Sinjar area.

“Since we don’t have unlimited funds, we had some concerns about the amount of maintenance the new system would require. We didn’t want to make a big investment in a system that would need a lot of care or that we wouldn’t be able to operate properly. But I must say, our concerns have been put to rest. It just works,” Omeed M. Enwiya, WASH Specialist, Save the Children explains and continues:

“The Selcoperm electro-chlorinator enables us to keep Sinjar residents safe from waterborne diseases. Every child and caregiver should have access to safe water, and with the help from Save the Children and Grundfos, we are now able to provide that to the Sinjar area.”



The Grundfos Selcoperm in Sinjar