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# Pure water pumping stations with Grundfos pumps

Eutin, which is situated in Schleswig Holstein, Germany, is also often referred to as the City of Roses, as for years, virtually every house wall has had a rose tree growing on it. Carl Maria von Weber made the town famous. Festivals are held every year during the summer months.

## The Situation

The town is nothing like it was 150 years ago, a community that was once small has developed into a conurbation that is home to more than 20,000 inhabitants. Stadtwerke Eutin GmbH (SWE) is responsible for supplying the town with electricity, natural gas, heat and water. It supplies the town itself and two neighbouring areas with drinking water, among other things. At the beginning of the 20th century, a water tower was built in order to achieve the pressure required in order to supply water. Nowadays, this method is seen to have become uneconomical. The required drinking water (1.1 Mio m<sup>3</sup>/anno) is now obtained in the water works plant from five 60 m deep wells. The iron and manganese that remains present in the water is enriched with atmospheric oxygen and filtered using cascades and 2 gravel filters. It is then placed in two approx. 900 m<sup>3</sup> pure water reservoirs.

## The Grundfos Solution

In 2005, the outdated pump technology was replaced with Grundfos CR pumps featuring control technology. The pure water pumping stations that form part of the water works pump drinking water from the water storage basin directly into the 90km-long water network.

The principal pumping station consists of:

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TOPIC:

Pure water pumping stations  
with Grundfos pumps

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LOCATION:

Germany

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COMPANY:

Town: Eutin

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5 Grundfos CR 90 pumps featuring external frequency converter and

1 Grundfos CRE 90 pump featuring frequency converter

One further (old) standard pump was transferred from the original stock and is still in use.

A further pumping station has been built on the outskirts of the town in order to supply an industrial estate with two sites. This consists of a Grundfos Hydro 2000MF booster system comprising 3 CR 45 pumps and 1 CRE 10 pump. After an "initial pilot period" of approx. 6 months, the optimum control was found: the pressure ranges between 5.67 and 5.72 bar, depending on the time of day and on demand. As a result of optimising our pump technology, we are currently saving approx. 6,000 kW/month. This is revealed by an energy consumption comparison (in comparable months) between the old and new pump systems.

#### The Outcome

CR pumps are known for their reliability and cost effectiveness. They form the backbone of the Hydro 2000ME booster systems. The integrated frequency converter continually adjusts the output to the actual requirements and provides a maximum level of pressure consistency. This has many advantages, including the fact that water hammer is avoided, the water distribution network is preserved and optimum adjustment of output is achieved. If an external frequency converter is required for operational reasons, this does not pose a problem as far as control technology is concerned.

Grundfos CR/CRE pumps can be incorporated into existing systems very easily.

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## Related Products



### CR VERTICAL MULTISTAGE CENTRIFUGAL INLINE PUMPS

Multistage pumps for pressure boosting in a wide range of applications