INDUSTRY Heat and power plants
APPLICATION Hydrogen production

Water treatment in container at Power-to-Gas facility

At the Nature Energy Glansager Power-to-Gas facility in Denmark, they utilize surplus electricity generated by wind turbines to enhance biogas production while reducing CO^2 emissions. This is achieved by transforming CO^2 into natural gas through the addition of hydrogen. To facilitate this process, electrolysis is employed, necessitating the use of highly purified water.

Grundfos has been responsible for designing and manufacturing the complete water treatment solution for the electrolyzer plant supplied by Andel and BWSC as sub-supplier of mechanical balance-of-plant equipment and installation.

The hydrogen production relies on alkaline water electrolysis (AWE) technology. The water treatment consists of softening as pretreatment followed by double-pass reverse osmosis and membrane degassing for high quality demineralized water with conductivity below 5 µS/cm. The solution is containerized ensuring a small footprint and easy installation.

Technical data

- Flow: 1.6 m^3/h
- MW rating: 3 x 3 MW

Units in plant

- Softening unit type SM82-F
- Double pass reverse osmosis unit type DPRO B2-8/6 with CRNE pump
- Membrane degassing unit type MDU for CO2 removal
- Pumpstation
- CIP unit

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Possibility in every drop