

## Reference Data Sheet



# COOL Gellersen

**Project owner**

Bioenergie Gellersen GmbH &amp; Co. KG

**Construction period**

02/2023 - 06/2024

**Net contract value**

3.2 Mio. €

**Contractor**

FRIEDRICH VORWERK SE &amp; Co. KG

**In-house work**

Turnkey construction and acceptance of the entire plant including product qualification and regulatory acceptance of the process and filling plant

## Purification and Liquefaction of Carbon Dioxide from the Gellersen Biogas Processing Plant

FRIEDRICH VORWERK has been awarded the contract for the turnkey construction of a CO<sub>2</sub> liquefaction plant that will liquefy carbon dioxide from a biogas processing plant in Kirchgellersen.

The facility produces 600 kg/h of liquid, cryogenic product of excellent quality. Ensuring product quality was a key component of the contract. The plant engineering was certified according to HACCP; the product meets the requirements of IGBT and EIGA and has been certified for use in mineral water.

Within the FRIEDRICH VORWERK Group, the project was implemented by experts from various business units: process design (VORWERK Gas Technology), structural engineering (FRIEDRICH VORWERK), electrical engineering (VS MESA), construction (Einhaus Anlagenservice), as well as programming and commissioning (VORWERK Gas Technology).

The main components of the system are:

- Oil-free compression
- High-pressure water scrubber
- Dual regenerative adsorption using activated carbon and zeolites
- Liquefaction via an NH<sub>3</sub> refrigeration system
- Reboiler and stripper for final degassing
- Tank farm consisting of two vertical tanks, each with a capacity of 50 tons
- Truck refueling station
- Semi-automatic refueling and data integration with the gas supplier's logistics system
- Installation and integration of gas analysis for the accompanying qualification of the produced carbon dioxide and the respective batch in the truck