



## AVR BioGas GmbH

### Client

AVR BioGas GmbH

### Construction time

08/2018 - 08/2019

### Order value net

3,000,000 €

### Contractor

FRIEDRICH VORWERK SE & Co. KG

### Own work

Process design Detail Engineering Prefabrication and plant engineering Automation Service

### Features

Biogas treatment of waste gas by means of a membrane process with a three-stage purification process

### Contact

[www.friedrich-vorwerk.de](http://www.friedrich-vorwerk.de)

## Gas pre-cleaning Lot 1 + BGAA Lot 2 Sinsheim

At the Sinsheim site, biogas from organic municipal waste is upgraded to natural gas quality. The raw gas is first cleaned of sulphur in a purification system developed by Vorwerk, and then higher hydrocarbons are removed in a scrubber and regenerative adsorption. From higher hydrocarbons in a scrubber and regenerative adsorption. A 5,000m<sup>3</sup> gas storage tank ensures great flexibility and optimum gas yield.

In a three-stage process using gas permeation membranes, the raw biogas is separated into a product gas with 97% methane and an exhaust gas with over 99% CO<sub>2</sub>. Compression to 13 bar is achieved by an oil-lubricated, single-stage screw compressor with subsequent fine cleaning. The process control system optimally regulates the temperature of the individual membrane stages for the respective operating point, since partial load capability is of great importance due to the different gas production. Is of great importance. While the exhaust gas is freed of residual methane in the autothermal after-burning system, the biomethane flows via a gas metering system at approx. 6bar into the feed-in plant.

The treatment plant is controlled by the process control system developed by Vorwerk. by the process control system developed by Vorwerk on the basis of the Siemens S7 1500 developed by Vorwerk and networked with the partners. The Sinsheim project illustrates the wide range of services Vorwerk Group's wide range of services in the trades of civil engineering, prefabrication of complete units, on-site plant construction on site, automation, commissioning and service.