

Biomethan Gröden GmbH & Co. KG

Client
Biomethan Gröden GmbH & Co. KG

Construction time
10/2015 - 12/2015

Order value net
200,000 €

Contractor
VORWERK-ASA GmbH

Own work
Process design, Detail Engineering, prefabrication and plant engineering, automation, Commissioning

Subcontractor services
Electrical assembly

Features
VOC separation after compression, cyclically regenerating adsorption plant

Contact
www.friedrich-vorwerk.de

BGAA Gröden

Biomethan Gröden operates a treatment plant for purifying biogas to natural gas quality. The plant is operated with biogas from organic waste, which provides different amounts of trace substances in the fermentation process. The upgrading plant with permeation membranes built by Borsig Membrane Technology GmbH had already been damaged several times by volatile organic hydrocarbons (VOC) because they condensed in the membranes due to the process. These are often substances from the terpene group.

To remove the trace substances in the compressed biogas, an adsorption plant was developed, built and put into operation. The two-tank system with a PN16 pressure rating operates in a recurring cycle. While the trace substances are collected in one filter, the other is regenerated by depressurisation and flushing with warm product gas in a closed cycle. In the condensate separated during regeneration, the impurities are found in concentrated form, in addition to the VOCs also other volatile components from the raw gas.

Careful selection of the adsorbent ensures a long service life. Since the installation of the VOC separation system, the treatment plant has been saved from damage and many litres of harmful condensation have been removed. and many litres of harmful condensate have been saved.