

MEMBRANE TECHNOLOGY FOR THE PRODUCTION OF BIOMETHANE FROM BIOGAS

Why a new technology?

- Possibility to increase the performance of biogas plants for the production of a new product - biomethane
- Biomethane can be used for cars (bioCNG) instead of conventional fuel or for gas boilers as a substitute for natural gas

Advantages

- Possibility of installation of membrane technology to the existing biogas plants
- Product quality: biomethane > 95% CH₄
- The principle of membrane separation does not require additional chemicals and does not generate waste
- Minimum requirements for operation
- Low energy consumption compared with conventional technologies
- Membrane technology works in continuous mode
- Possibility to expand the capacity of technology
- Small built-up area
- Container design - without dealing with construction permits
- Delivery of customized technology
- Alternative use of biomethane product
- Possibility of piloting for process demonstration before the implementation of final technology

OUR OFFER

- Delivery of membrane technology for the production of biomethane from biogas to the required capacity and product quality
- Commissioning of the technology
- Monitoring of the technology, warranty and post-warranty service
- Feasibility study
- Development of investment project
- Piloting for process demonstration before the delivery of final technology
- Ensuring the necessary pretreatment before membrane technology



Technology for biomethane production

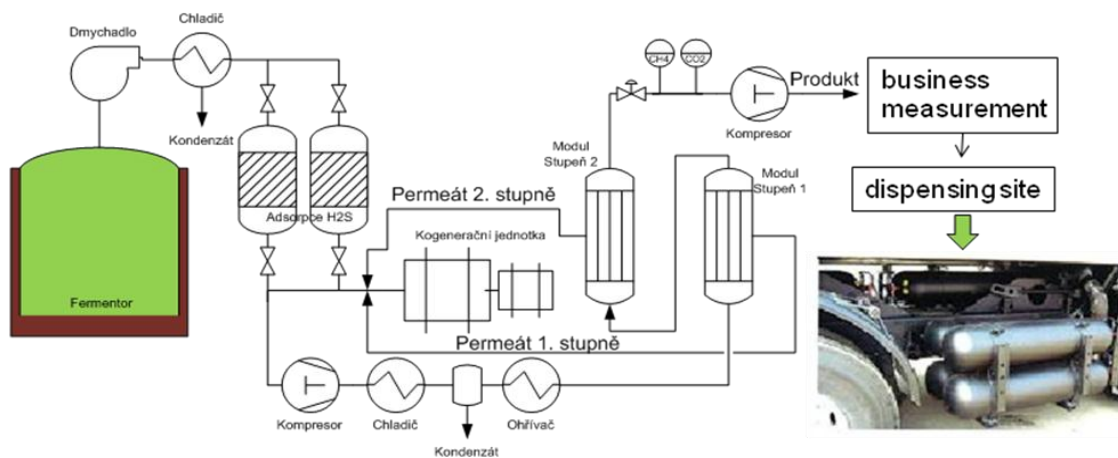


A biogas plant where the new technology was tested in a pilot-scale

OPTIONS OF TECHNOLOGY APPLICATION IN BIOGAS PLANTS

1. Combination with the cogeneration unit

- Solution for the current BPS
- Recycling of waste stream (CO_2) – no waste streams
- Capacity up to 50% of the production of biogas (CH_4 concentration in product > 95%)
- It uses existing biogas pretreatment (additional pretreatment is less challenging)
- Usage for agricultural machinery and for public transport (cars, trucks, buses), for gas boilers



2. Biomethane production

- Solution for a new BPS – to adjust the total biogas production
- Capacity 125 - 160 Nm^3/h of biomethane (> 95 % CH_4), can be modularly scaled up
- The product is supplied into the natural gas network or used as bioCNG in transport

