MemBrain®

MEMBRANE INNOVATION CENTRE

CONTAINER TECHNOLOGY bioCNG_25

Application

Technology for biogas upgrading and producing bio-methane is suitable for:

- cars (bioCNG) instead of conventional fuels
- filling containers for further processing
- gas boilers as a substitute for natural gas
- injection into gas distribution system

Advantages of biomethane production

- alternative usage of biogas at increasing the capacity of existing BPS
- more efficient usage of energy from biogas
- energy independence

Description

Container membrane unit is a fully automatic technology of converting raw biogas to fuel bioCNG fulfilling the same parameters as CNG. Raw biogas is stripped of hydrogen sulfide and water, then the gas is compressed and divided into membrane modules for biomethane and CO_2. Biomethane is pushed into the storage bottles, which is followed by the filling and dispensing panel for bioCNG. The by-product can be mixed with raw biogas and used in cogeneration units of biogas plant.

TECHNOLOGY COMPONENTS:

- Container ISO20 (1C)
- Panel for monitoring and process control with remote access
- Adsorption column
- Medium-pressure compressor
- Two pairs of condensing heat exchangers
- Membrane modules
- High pressure compressor
- Refrigerator
- Gas analyzers
- Safety sensors
- Six pressure storage bottles
- Dispensing panel

CONNECTIONS:

- Input of biogas
- By-product output
- Power supply (400 V)
- Output of condensate

TECHNOLOGY PARAMETERS

Parameter	Value
Feed of biogas to the technology	25* Nm^3/h
Biogas characterization	51 – 65 vol % CH_4
Capacity of the bioCNG	11.3 Nm^3/h
BioCNG characterization	> 95 vol % CH_4
Capacity of the pressure storage bottles	6x140 liters (water volume) / 160 kg
Dimension of the technology (w x h x l)	2.5 x 2.5 x 6 m
Power consumption	12.9 kW/h

*We are able to design capacity of the technology according to the customer requirements.