

GEMÜ

Innovative Valve Solutions For Biogas

Sven Truckenmüller - GEMÜ GmbH & Co. KG



8-9 févr/feb 2023 Nantes FR



le rendez-vous bioénergie, bioéconomie & décarbonation
the rendez-vous for bioenergy, bioeconomy & ccu/s

www.gemu-group.com

GEMÜ - Global expertise

Our knowledge and our local consultation

- Founded in **1964**
- Internationally active, owner-managed, **family-owned enterprise**
- A leading manufacturer of **valves, measurement and control systems**



27

Subsidiaries



6

Manufacturing sites



2400

Employees

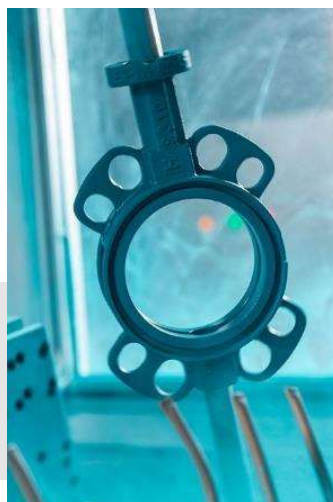


50+

Countries

Global production expertise

Our quality requirements



**Production
centre**

Germany

**Production
in the cleanroom**

Switzerland

**Production of
butterfly valves**

China

**Production of
industrial
diaphragm
valves**

Brazil

**Production of
diaphragms**

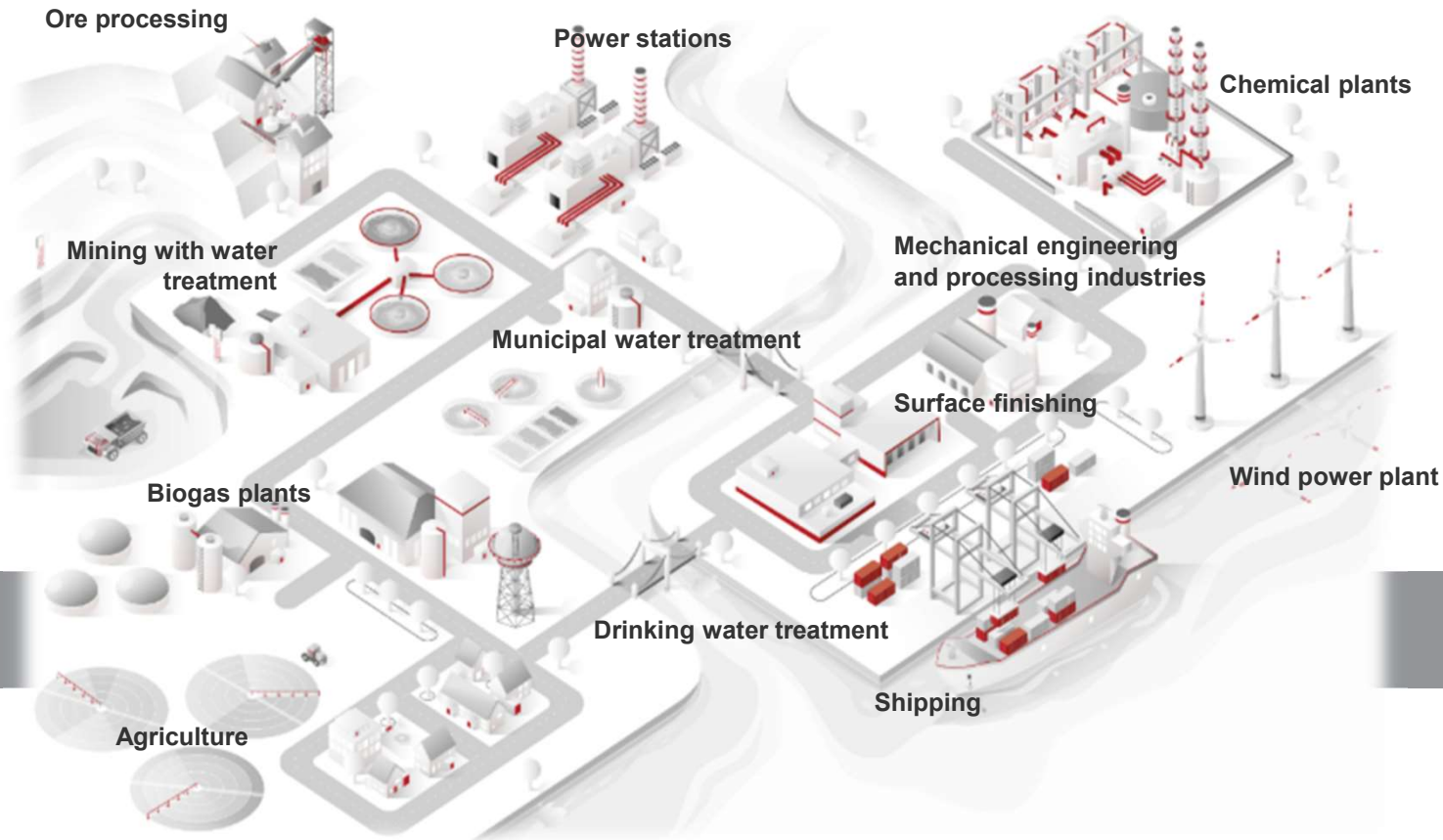
France

**Production
centre**

USA



Areas of use for our valves, measurement and control systems



Business Unit Industry



The right solution for every application

Our product range



Diaphragm valves



Globe valves



Check valves



Butterfly valves



Ball valves



Process solenoid valves



Electrical position indicators and combi switchboxes



Pilot valves



Pressure control valves



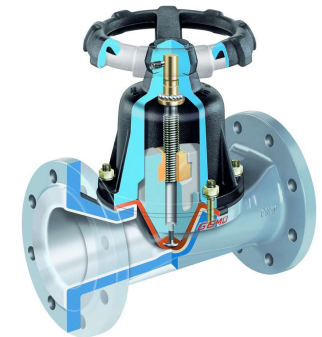
Positioners and process controllers



GEMÜ – Valves for Biogas Application

Opportunities in the biogas sector

- Butterfly valves and check valves
- Full bore diaphragm valves for slurries
- Diaphragm valves and flow meters for NPK-Nutrient Recovery Plants
- Globe valves for PSA-units



Biogas Upgrade – PSA Units

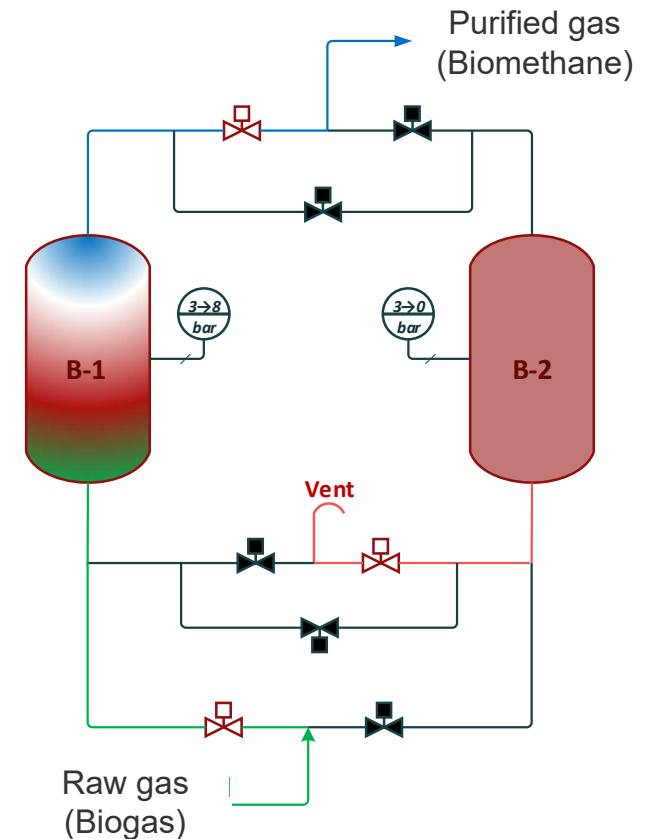
PSA Pressure Swing Adsorption – General Information

Why?

high requirements for biomethane injection into gas grids (humidity and CH₄ content)

Working principle

- 2 or more pressure vessels filled with carbon molecular sieves:
One in Operation (Adsorption of CO₂), One in Regeneration (Desorption)
- when the operating vessel is exhausted, the operation “swings” to the regenerated vessel

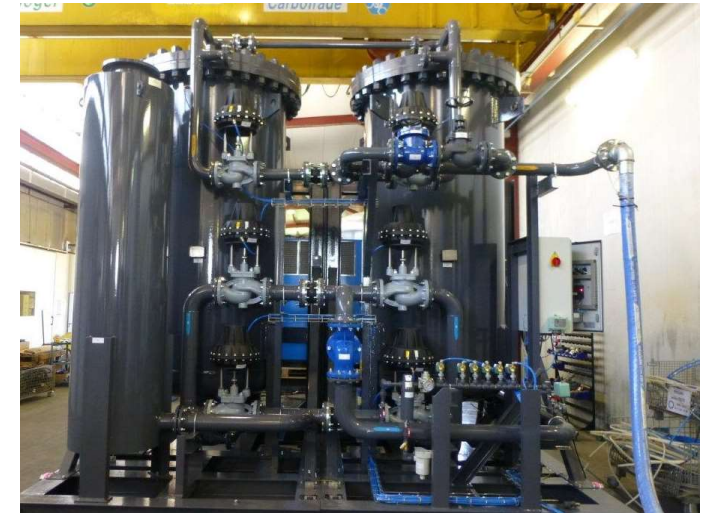


Biogas Upgrade – PSA Units

PSA Pressure Swing Adsorption – General Information

Typical situation

- high duty cycles
- Additional check valves, flow meters, pressure gauges
- Compact design for containerised installation

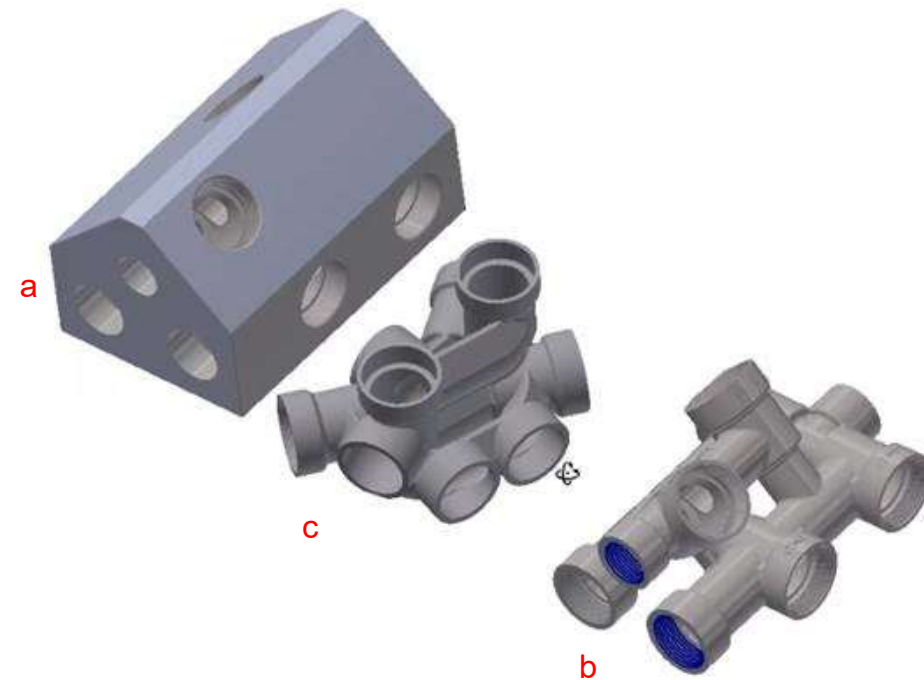


Multi-port-valve block

Special Solution for PSA units

Types of block design

- a) milling and drilling
- b) Investment casting
- c) Additive Manufacturing - 3 D metal printing



Multi-port-valve block

Special Solution for PSA units

Advantages of additive manufacturing

- Certified process in accordance to Pressure Equipment Directive, test specimen included
- More compact design possible
- Complex designs possible
- Highly adaptable on customers challenges
- Approx. 20% weight saving compared to casting design



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Thank you for your attention.

Sven Truckenmüller

BU IND Application Management

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