

# Sorpt.X SB

## Biogas upgrading/purification systems

With increased interest in the renewable fuels industry, companies are looking to turn their waste stream into a revenue stream by recovering methane.

Designed to capture more than 98.5% of the methane and purify it to pipeline quality renewable natural gas (RNG), Sorpt.X SB biogas upgrading/purification systems remove  $H_2S$ ,  $CO_2$ , and light siloxanes from the digester gas produced at agricultural and animal waste (manure) facilities, wastewater treatment plants, and landfill sites.

Depending on the characteristics of the biogas stream, Dürr offers both water scrubbing and membrane separation solutions for biogas upgrading/purification.

### HIGHLIGHTS



[Reliable operation](#)

[Minimal methane loss](#)

[Skid-mounted and modular in design](#)

[Long-lasting, cost-effective performance](#)

[Full automation with advanced telemetry](#)

[Turnkey installation, start-up, and preventive maintenance services](#)

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## Biogas upgrading/purification systems

### WATER SCRUBBING

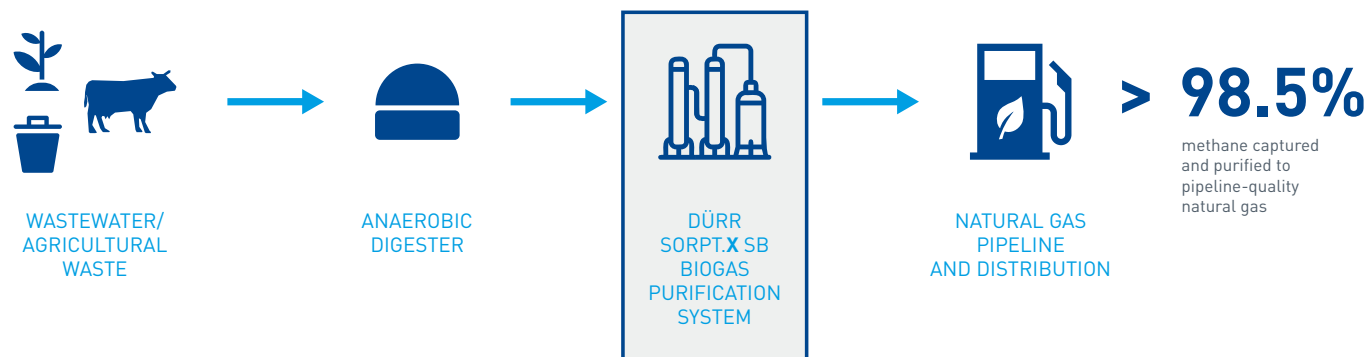
Water scrubbing systems include a pressurized stainless steel scrubber vessel and a low-pressure stripper vessel, both packed with state-of-the-art unstructured media for the most efficient distribution for CO<sub>2</sub> absorption and desorption.

The unique closed-loop water circulation design eliminates the water consumption requirement by 99.5%. Compared to other technologies, water scrubbing offers reliable, chemical-free operation with low and constant pressure requirements, making it the lowest operating cost system available in the market.

### MEMBRANE SEPARATION

Dürr also offers a containerized membrane separation system to minimize footprint, installation efforts and time. The modular design allows for fast start-up, immediate product gas readiness, and minimal operator attention and maintenance requirements.

Membranes are sourced from industry market leaders, resulting in more than 99% methane capture, the highest gas purity possible, and less than 0.2% methane loss. Aggressive conditioning at the membrane feed with multi-stage cooling, drying, and filtering maximizes membrane life and system reliability.



### H<sub>2</sub>S TREATMENT

Partnerships with world-class developers of H<sub>2</sub>S removal systems enables Dürr to provide a complete biogas upgrading/purification system that meets its customers' design requirements.

### LIQUID SYSTEM (NON-BIOLOGICAL)

Liquid systems are capable of handling a wide (and high) range of H<sub>2</sub>S concentrations with no consumable media or packing. The system removes H<sub>2</sub>S in the form of an elemental sulfur cake that is automatically washed, dried, and discharged from a filter press.

### MEDIA-BASED H<sub>2</sub>S REMOVAL

Media-based systems feature a proven activated carbon and iron sponge media design to provide cost effective and consistent H<sub>2</sub>S removal.

### BIOLOGICAL H<sub>2</sub>S REMOVAL SYSTEM

Biological systems utilize biotrickling filter technology for H<sub>2</sub>S removal treatment. These systems offer economical advantages with chemical-free operation while generating sulfur-rich liquid fertilizer as a valuable by-product.



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