



External desulphurisation plant

Planning

Construction

Start-up

Operation

Service



Biological biogas purification

The biological trickling filter, a plant component for biogas desulphurisation outside the fermenter in whose development EnviTec Biogas played an important role, provides considerable added value for biogas plant operators: The process of biological biogas purification

based on the use of sulphur-oxidising microorganisms can considerably reduce the concentration of hydrogen sulphide in biogas, so that iron salts no longer have to be used for desulphurisation in the fermenter.

Very high purification capacity

The biogas streams upwards through the regularly moistened trickle filter along film strips colonised by sulphur-oxidising microorganisms which form a biofilm, in the process of which the hydrogen sulphide is converted into elemental sulphur. This sulphur is deposited at the bottom of the vessel with the flushing liquid and is then spread together with fermentation residues on crop land,

thereby completing the cycle for this important fertiliser. This process is used as an effective addition to aerobic desulphurisation and only employs fermentation residues and water as input materials.

The desulphurisation plant achieves an average purification capacity of over 94%. This means a reduction of 250 ppm to 15 ppm, for example.

Advantages for operators

- + Significant savings on iron salts for desulphurisation in the fermenter
- + Considerable increase in the service life of the activated carbon filter due to high purification capacity
- + Protection of co-generation plant and catalyser from sulphur (for plants without activated carbon)
- + Very low operating costs
- + Easy operation and low maintenance
- + Increased safety in biogas plant operation
- + Closed sulphur recycling system
- + Sulphur removed from biogas in a biological and therefore environmentally friendly process