

Liquids to Value



Westfalia Separator®
aquaflow

Treatment of Fermentation Residues in Biogas Installations Using Westfalia Separator® aqua**flow**

Treatment and recovery of resources by means of centrifugation and flotation in one process



Westfalia Separator® aquaflow – Simply More Efficient as a System

In combination with a decanter centrifuge, Westfalia Separator's® aquaflow microbubble technology is an innovative system solution for the treatment of fermentation residues in biogas installations.

Installation operators reduce their energy consumption and need fewer chemicals

GEA Westfalia Separator is the world leader in mechanical separation technology. The company now handles more than 2500 applications in process technology, and innovative solutions from its Fluids & Water Business Unit also support care of the environment. The priority are separation technology systems which are able to meet every requirement for high process efficiency and gentle handling of resources in the long term.

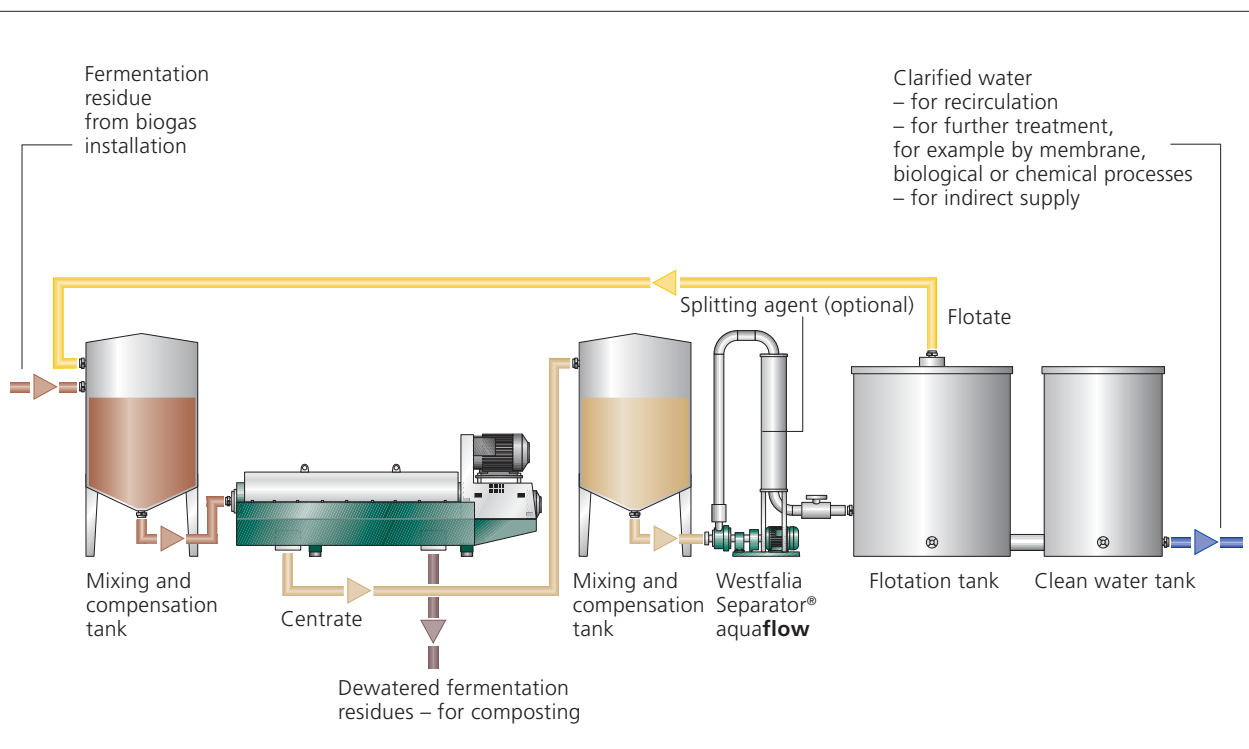
Everything from a single source:
centrifugation and flotation

An outstanding example is the treatment of fermentation residues. For efficient treatment and recovery of resources, the company combines tried and tested decanter and flotation technology in one process line.

The core element of the newly-developed flotation unit is the innovative Westfalia Separator® aquaflow microbubble technology.

The first treatment step involves the decanter: it separates from the fermentation residues the solid particles which can be spun off and dewater them into a flowing dry consistency. The valuable organic constituents of the discharged solids make it a much sought-after and high-quality fertilizer for horticulture, agriculture and forestry.

Downstream of the decanter is the Westfalia Separator® aquaflow flotation unit. This has the job of separating suspended or colloidal substances from the centrate with the aid of gas bubbles.



Treatment of fermentation residues in biogas installations



Decanter UCF 466

The centrate of the decanter is compressed in the Westfalia Separator® aquaflow and passed through a compressed air atmosphere. The compressed air is supplied automatically, without the use of electrical sensors which are susceptible to faults. This means that the system operates on a virtually maintenance-free basis. A newly-developed microbubble technology ensures reliable mixing of air and water and a constant degree of saturation. Disruptive fluctuations in the gas bubble spectrum are eliminated. Energy consumption is significantly reduced compared to conventional processes.

A summary of system benefits:

- All components from a single source
- Few interfaces
- Dewatered solids can be sold in the form of high-quality fertilizer
- Flotation with innovative microbubble technology
- More effective gas bubble spectrum
- Reduced energy required
- Minimized use of chemicals
- Virtually maintenance-free operation

Dramatically reduced reaction time

Microbubble technology is associated with even more benefits for the installation operator. Turbulence mixing dramatically reduces chemical reaction time, so if the process demands the use of chemicals, the new microbubble technology reduces the quantity of chemicals required.

A variety of options is available for the purified fermentation residue: it can be recirculated into the fermentation process, fed to an indirect supply or treated further – by membrane technology, or by biological or chemical processes, for example.



Westfalia Separator® aquaflow

- Beverage Technology
- Dairy Technology
- Renewable Resources
- Chemical/Pharmaceutical Technology
- Marine
- Energy
- Oil & Gas
- Environmental Technology
- Engineering
- Second Hand Machinery
- Original Manufacturer Service

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