

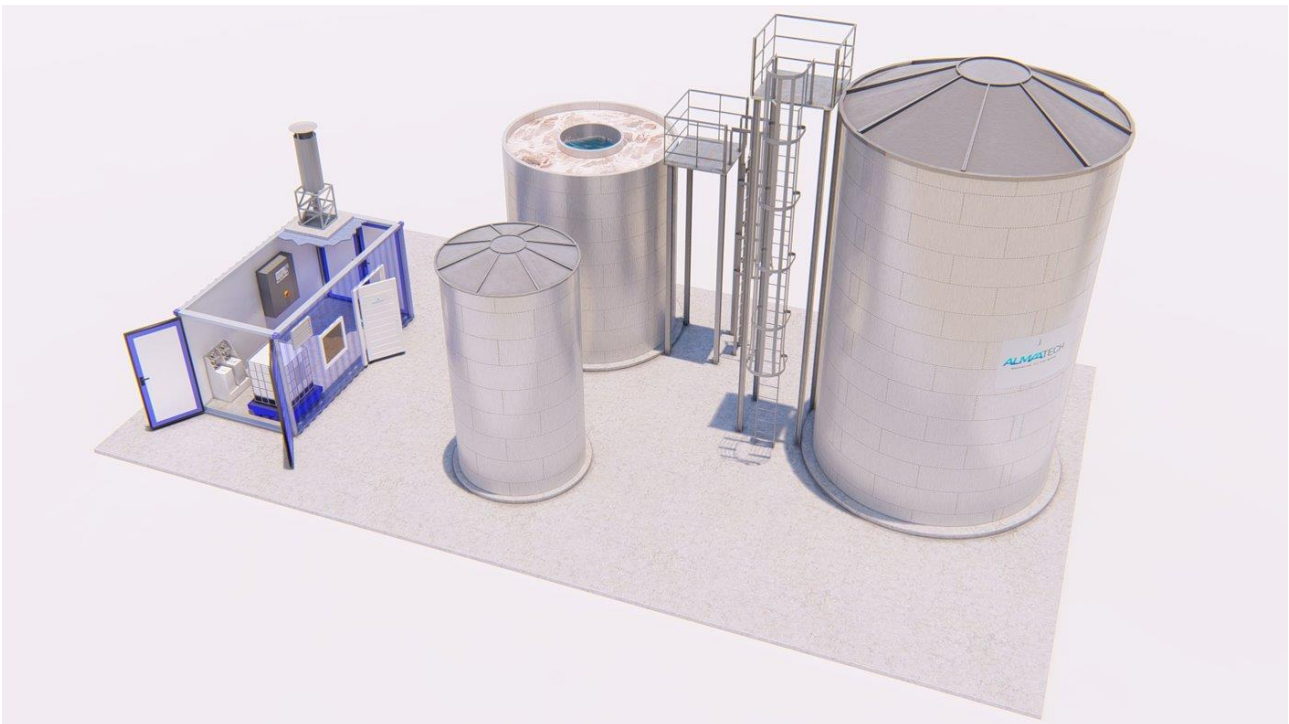


ALMAWATECH

INNOVATIVE SOLUTIONS FOR WATER

ALMA BIOMAGE

Anaerobic process for efficient whey fermentation

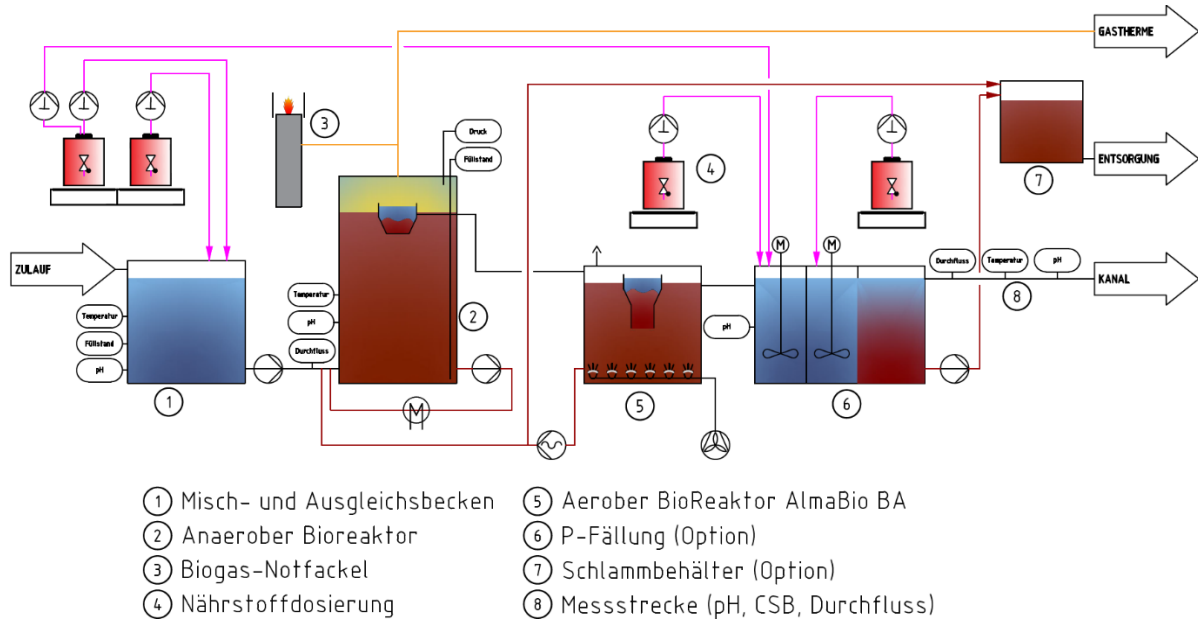


The **ALMA BIOMAGE** represents a robust anaerobic biological process system that has been specially designed for biogas production from whey. The microorganisms present in the reactor convert the organic impurities in the wastewater into valuable biogas. The core of the system consists of the specially developed UASB reactor with gentle reactor circulation to protect the microorganisms and the ALMA 3-phase separator. Energy-rich biogas accumulates in the upper section of the reactor and is fed into a biogas utilization system. Aerobic post-treatment in the ALMA BIO BBI and phosphorus elimination reduce the wastewater content to such an extent that it can be discharged. Biogas production is 0.5 - 0.7 m³ of biogas per kg of degraded COD. The energy yield is up to 250 kWh per m³ of whey.

Applications

- Dairies and cheese factories
- Milk processing industry

Process flow diagram



Specifications

- 3-phase separator and secondary separator for effective biomass retention
- Biogas storage in the reactor dome
- Innovative sementer design for effective biomass recirculation
- Robust and durable process technology
- External biomass circulation

Optional

- Aerobic biological stage
- Phosphorus precipitation
- Gas scrubbing and desulphurization
- Gas Booster Station
- Nutrient dosing station
- Room load: 8-20 kg COD/(m³·day)
- COD load: 10,000-120,000 mg/l

Reference plant





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ALMAWATECH GmbH - Your plant manufacturer and service provider in industrial water and wastewater technology offers everything from a single source

**Analysis &
Optimization**

**Planning &
Consulting**






**Water
chemicals**

**Operations
Management**








Plant engineering

Wastewater and process water

-  Treatment for direct and indirect dischargers
-  Pre- and post-treatment of wastewater
-  Process water Recycling
-  Ultrapure water production
-  Individual system solutions for all branches of industry

Procedure

-  Biological (aerobic/ anaerobic/ anoxic)
-  Precipitation, flocculation and neutralization
-  Filtration & reverse osmosis
-  Oxidation & hygienization
-  Modular systems

Specialized water chemicals from ALMAWATECH for wastewater applications, cooling water circuits, membrane systems and boiler plants.