



POWERFUL,  
ENVIRONMENTALLY  
FRIENDLY AND  
COST-EFFECTIVE

## WASTE WATER TREATMENT

- **Food and beverage production**
- **Wastewater from slaughterhouses**
- **Industrial wastewater**
- **Wastewater from agriculture**

# OUR SERVICES



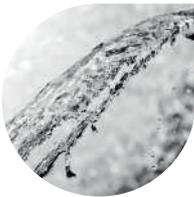
## Waste water treatment

The unique FlexBio wastewater treatment plants work energy-efficiently and cost-effectively in all areas of application. Whether you want to clean weakly polluted wastewater on a farm or heavily polluted wastewater from industry, the FlexBio portfolio always offers a suitable solution.



## Biogas technology

The FlexBio biogas process developed by us is suitable both for use in agriculture and in waste management. Our fixed bed technology convinces with very high flexibility - e.g. suitable for on-demand biogas production without large gas storage - as well as with high process stability and efficiency.



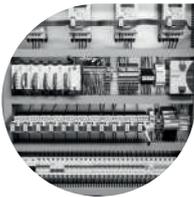
## Water treatment

FlexBio Technologie GmbH offers compact and modular water treatment plants as container solutions. The container plants for water treatment are delivered turnkey and ready for use.



## Pilot plants

As a plant manufacturer, we offer a wide range of test facilities. In addition to our standardized test facilities, we also provide individual customer solutions. Having your own prototype gives you great flexibility in the development and optimization of your processes.



## Control and measuring technology

As a manufacturer of waste water treatment plants, water treatment plants, biogas plants and experimental plants of all sizes, we are very familiar with the production of control systems including development, planning, design and programming.



## Service

FlexBio Technologie GmbH is your contact for the first consultation on the planning, construction and commissioning of the unique FlexBio technology systems.

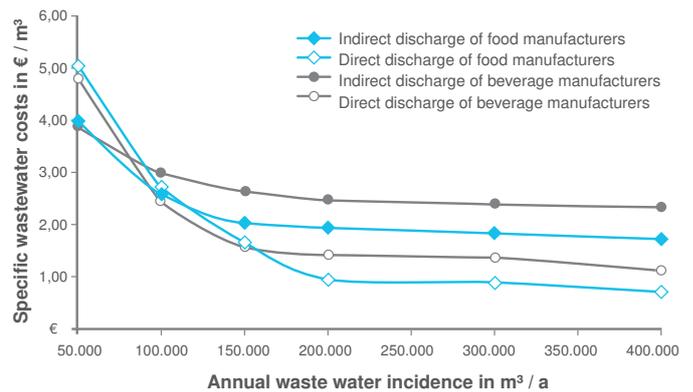
# FLEXBIO WASTE WATER TREATMENT

The unique FlexBio wastewater treatment plants work energy-efficiently and cost-effectively in all areas of application. Whether you want to clean slightly polluted wastewater on a farm or heavily polluted wastewater from industry, the FlexBio portfolio offers a suitable solution. The technology impresses with its simple operation and reliable cleaning performance. You can also benefit from the specially developed process, which converts organic pollutants into biogas. The biogas obtained is directly available as a sustainable and environmentally friendly source of energy and can improve your carbon footprint permanently.

At a certain size of the waste water producing facility, an indirect discharge (to a central treatment plant) may become excessively expensive. In addition to the fixed sewage fees, often pollution-related surcharges (heavy pollution surcharge) accrue. In some cases, industrial expansion is threatened by the capacity of the municipal sewage treatment plant. In any case, we offer the right solution to make you independent of third parties and to save costs.

FlexBio technology developed a process that enables efficient water purification. The process is based on an anaerobic high-performance fermenter with biomass retention. During the anaerobic treatment, the organic load of the waste water is reduced by more than 90%. The technology also has the crucial

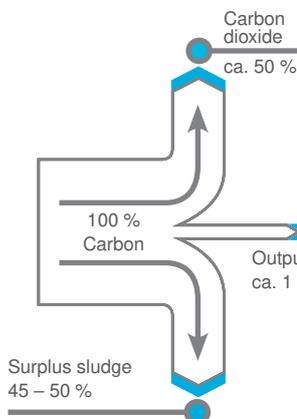
## INVESTMENT IN A SEWAGE PLANT OPERATING OR RELEASE TO A MUNICIPAL WASTE WATER TREATMENT PLANT?



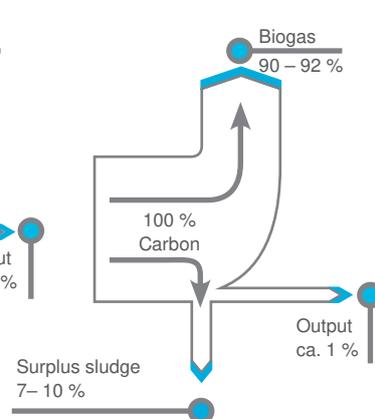
*FlexBio treatment: Calculation basis is 10 years depreciation, income from gas utilization and all relevant costs.*

advantage that the plant keeps its high performance even with changing organic and hydraulic loads. The plant concept can be extended by an aerobic treatment stage or a membrane activated sludge reactor so that even the strictest discharge limits are met.

### CONVENTIONAL WASTEWATER TREATMENT PLANT (aerobic degradation)



### FLEXBIO COMPACT WASTE-WATER MANAGEMENT (anaerobic pretreatment and aerobic aftertreatment)



## OUR SERVICES

- Determination of Potential and Demand
- Process delivery
- 3D modeling
- Planning of manufacturing and licensing
- Plant construction as general contractor
- Standardized documentation according to actual regulations
- Commissioning

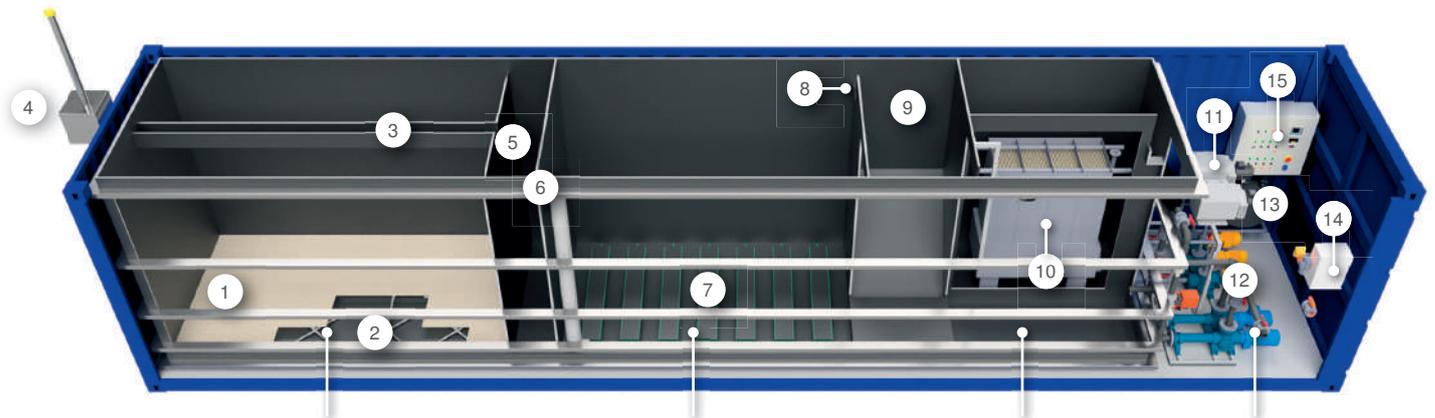
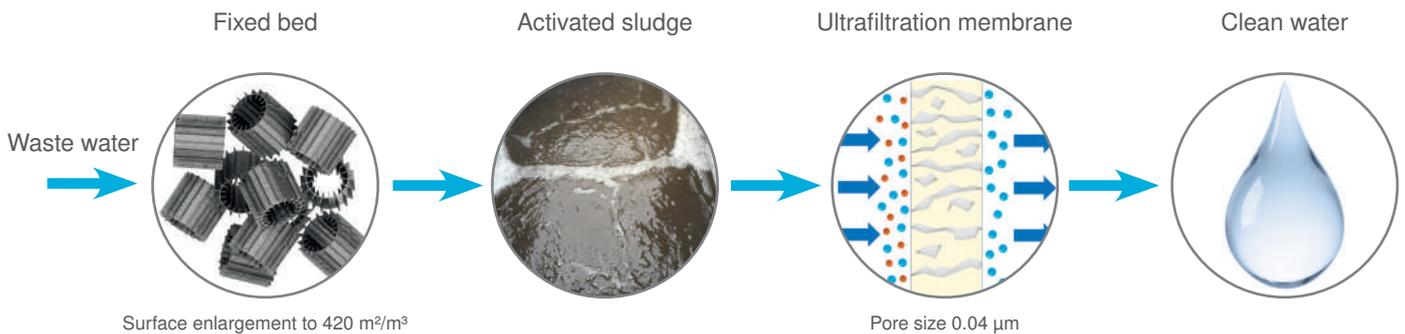
The process, already protected by patent application, enables effective reduction of ammonium-nitrogen and nitrate. In addition to COD and nitrogen, by addition of precipitants e.g. phosphates or sulfur can be removed from the wastewater.

The FlexBio technology can either be delivered in compact modular containers according to the plug & play principle or built as a large-scale system at your site. We provide the complete planning, construction, installation and commissioning of your wastewater treatment plant. Even the operation of your plant according to individual operator models is possible.

## ADVANTAGES

- Full cost control
- Modularly expandable at any time
- Short payback period
- No additives needed
- Low operating costs
- Improvement of CO<sub>2</sub> balance
- Sustainable production of biogas
- Various maintenance models
- Fully automatic operation
- Guarantee of productivity

### FLEXBIO-AFBBM-100 IM ISO-40FT-CONTAINER



Anaerobic Fixed Bed AFB

Activated Sludge Process ASP

Membrane Bioreactor MBR

Engine room

- |                                       |  |   |                        |
|---------------------------------------|--|---|------------------------|
| 1. Grid bottom for packing in the AFB | 5. Settling tank for anaerobic sludge  | 9. Clarifier settler with hopper bottom | 13. Heating system     |
| 2. Distribution nozzles               | 6. Overflow dip tube into ASP          | 10. MBR module                          | 14. Biogas measurement |
| 3. Overflow channel into setting tank | 7. Ventilation plates for aeration ASP | 11. Ventilation compressor              | 15. Control cabinet    |
| 4. Overpressure protection            | 8. Overflow into clarifier             | 12. 5 pumps                             |                        |

## FOOD AND BEVERAGE MANUFACTURING

In the food and beverage industry, wastewater accumulates in various process steps. Whether from potato washing, salad production, bottle washing or milk processing, FlexBio wastewater technology offers the right solution. Wastewaters can differ significantly in their composition, but they all have one thing in common: wastewater from your production contains valuable energy that can be gained in the form of biogas by using the innovative FlexBio water technology.



## SLAUGHTERHOUSES

The wastewater produced in slaughterhouses and meat processing plants has enormous energy potential. This energy can be obtained by means of the FlexBio process in the form of biogas. Thus, you can cover up to 20% of the energy needs of your business through wastewater treatment. Our plants can process from a few m<sup>3</sup> / d up to several 1000 m<sup>3</sup> of wastewater per day. In addition, it is possible to dispense with expensive additives and auxiliaries as well as expensive flotation.



## INDUSTRIAL WASTE WATER

The industry requires large amounts of water; these quantities accrue as waste water at the end of the process. The FlexBio process cleans the wastewater so that it can be reused in the processes. This saves both costs for fresh water as well as wastewater discharges costs. Depending on the requirements of the cleaning performance and the initial load, different treatment modules can be combined to meet your requirements.



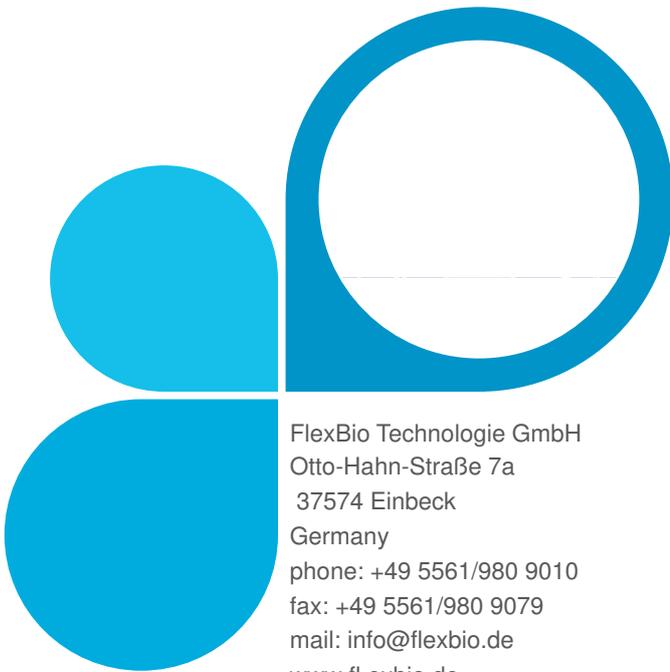
## WASTE WATER FROM AGRICULTURE

FlexBio Technologie GmbH offers attractive solutions for the treatment of surface water, which will be cleaned to discharge quality. Due to the advantages of the FlexBio technology, you neither have to operate complex water management nor unnecessarily burden your digestate. The surface water is collected and automatically cleaned in a container facility until it reaches the required values. Then it can be used for irrigation or discharged into e.g. a river.



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