

BIOGAS FROM WASTEWATER – SUCCESSFUL HANDOVER OF THE ANAEROBIC BIODIGAT® SB SYSTEM TO THE CUSTOMER DEVELEY IN DINGOLFING, GERMANY

Develey Senf & Feinkost GmbH, an international manufacturer of mustard, sauces and dressings and winner of the German Sustainability Award 2020, commissioned WEHRLE in March 2021 with the design and implementation of a wastewater treatment plant with biogas generation. Just one year later, in the summer of 2022, the rapid biological commissioning of the industrial water treatment plant took place at 100% capacity at the largest German production site in Dingolfing.

As part of its gradual and sustainable production expansion, Develey commissioned WEHRLE with the construction of its own treatment plant for the wastewater from sauce, dressing and pickle production at the Dingolfing site.

The WEHRLE plant reduces the wastewater pollution load in such a way that the discharge values fixed by local authorities for indirect discharge into the downstream municipal sewage treatment plant are safely fulfilled. The industrial wastewater treatment plant is also an example for the synergistic integration of modern environmental technology and supports the customer's overall sustainability initiative by reducing production emissions.

After a concept study in which various aerobic and anaerobic processes were compared, WEHRLE worked together with the customer to develop a comprehensive overall concept, including sophisticated wastewater treatment and reliable purification of the water during peak loads in accordance with official requirements. Furthermore, the integrated biogas generation of the wastewater treatment plant together with a modern combined heat and power plant allows the direct conversion of the generated biogas into electricity, which can be used on site. In this way, the customer can minimize the ecological footprint and save energy costs at the same time. The used technology is the anaerobic high-performance BIODIGAT® SB process. With its 3-phase separation system incorporating highly efficient biogas utilization as well as heat pump technology with maximized overall energy efficiencies, the process meets all customer requirements.

WEHRLE's scope of supply included the delivery and assembly of the treatment plant as well as the commissioning of the high-performance BIODIGAT® SB process. The customer was responsible for civil engineering and the provision of heat, including the corresponding heat exchanger surfaces in the inlet and outlet.

The successful commissioning of the new wastewater treatment plant was completed almost on time despite the difficult conditions caused by the pandemic. Initial evaluations confirm the excellent results of the plant operation. Only four weeks after inoculation of the plant with biomass, the capacity is already at 100%. The cleaning result and the gas yield show an increase of approx. 20-30% compared to the expected values. Intelligent control technology enables continuous operation of the biology and the combined heat and power plant – twenty-four hours, seven days a week.

Mr. Reiter, Technical Director of Develey in Dingolfing, is very satisfied: "The robustness of the biological process has clearly exceeded our expectations. The high-performance system reliably purifies our wastewater, which varies greatly in quantity and quality, in continuous operation. In fact, the biogas production is so good that we are considering another combined heat and power plant for electricity generation." With this project, WEHRLE expands its references for anaerobic wastewater treatment and shows its reliability as partner in the field of environmental technology. "We are proud to be part of this innovative and future-oriented project as an important system supplier and to be able to support the customer in its long-standing claim to sustainable operation with innovative

products, clever engineering, drive and on-time implementation”, says Frank Natau (Business Development Water Processes at WEHRLE).



(From top left to bottom right)

Picture 1: Insight into the production facility in Dingolfing; © Develey

Picture 2: WEHRLE's BIODIGAT® SB wastewater treatment plant for Develey's production site in Dingolfing; © Martin Schaub, WEHRLE

Picture 3: Logo of WEHRLE-WERK AG

Picture 4: Wastewater treatment plant designed by WEHRLE for Develey's production site in Dingolfing; © Martin Schaub, WEHRLE

Picture 5: Commissioning of the BIODIGAT® SB wastewater treatment plant designed by WEHRLE; © Pia Neumann, WEHRLE

Picture 6: Insight into the production facility in Dingolfing; © Develey

ABOUT WEHRLE

WEHRLE is pioneer and technology leader for the treatment of special waste and complex wastewater. Founded in 1860, the company supports public and private companies in achieving their environmental goals and increasing their resource efficiency with a complete range of services, from process dimensioning, in-house large-part manufacturing and customer-specific plant engineering to proven services. With plants in over 45 countries on 5 continents, the 100% family-owned company in sixth generation stands for innovation, reliability, sustainability and trustful cooperation with regional and international partners in the growing environmental technology market.

Facts & Figures:

Year of foundation: 1860

Employees: over 250

Turnover: over € 45 million p.a.

Family ownership: 100 % in 5th/6th/7th generation

Range of technologies:

- Decentralized thermal utilization of waste
- Sewage sludge incineration for the recovery of phosphorus
- Treatment, reuse and utilization of industrial wastewater
- Treatment of leachate, liquid manure and digestate
- Large-part manufacturing for machine and plant construction

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