

Case Study No 14

STORAGE AND FEEDING SYSTEM FOR POWDERED ACTIVATED CARBON IN WASTEWATER TREATMENT PLANTS

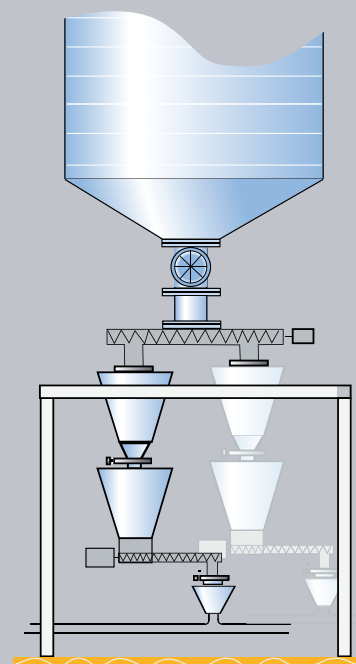
Subject Increasingly stringent requirements for the purification of wastewater are making it necessary to use powdered activated carbon in wastewater treatment plants. Together with the German company Sülzle-Kopf, Gericke provides a total turnkey solution for storing and feeding powdered activated carbon into wastewater. This system – known as AK-DOS® – has been installed in various wastewater treatment plants including the facility in Sindelfingen, Germany.

Specifications PAC bulk density: 0.27 – 0.29 kg/l
PAC proportion: 10 mg/l waste water
Silo storage capacity: 150 m³
PAC consumption: 10 – 100 kg/h.

Product Cabot, Norit PAC SAE Super D50: 10-50 µm.

Process equipment The installation consists of a storage module, which in this case includes a 150 m³ silo, two gravimetric feeding devices and a dissolving/mixing unit. The system allows the PAC to flow evenly, with the accurate feeding devices providing the optimal dose to suit the volume of wastewater. The mixing unit is positioned downstream of the feeding devices and ensures that the PAC powder is fed uniformly into the water.

The required quantity of PAC varies depending on the volume and quality of the wastewater. When it comes to controlling and monitoring the activated carbon dosage, the EasyDos Pro feeder control unit offers the utmost precision by communicating with a superordinate PLC.

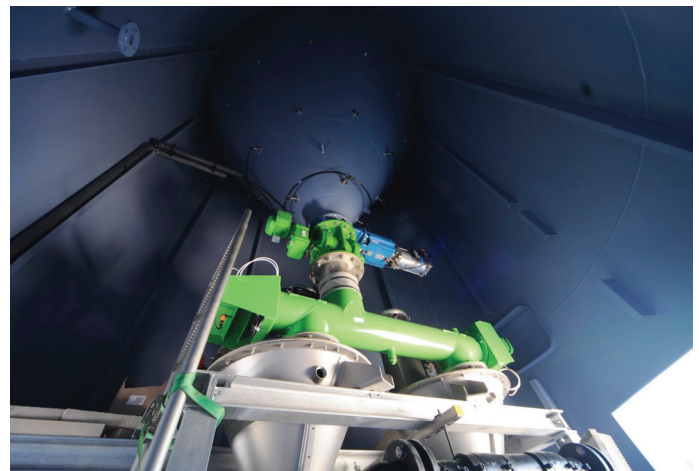


- Gericke Technology**
- **HD Rotary Valve** for controlled silo discharge.
 - **Screw Conveyor** for distributing to the **two two DIW 50 gravimetric feeding devices** with variable flow rate.
 - **EasyDos Pro** weighing controller.

All components are designed for dust-free operation and are ATEX compliant.

Benefits Due to the high feeding accuracy of the Gericke DIW feeders, the use of PAC can be precisely adapted to suit the current wastewater flow. This results in significantly lower operating costs than any other comparable systems.

Options This case study describes the specific solution for the wastewater treatment plant in Sindelfingen, Germany. Depending on the size of the plant, other designs are available for storing and feeding the PAC. The AK-Dos system is particularly suitable for use in both bio-systems and physical-chemical water treatment plants.



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