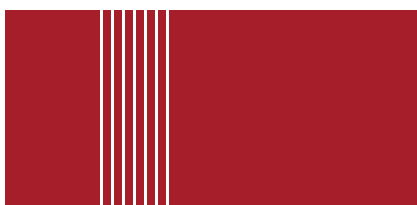


# PRACTICE REPORT 55

Application examples for planners of complex construction projects



**Reliable fresh air supply especially important:  
Renovation in Bremen's main sewage treatment plant**



**Application area for VENTAFLEX®:  
Modern, insulated air ducts  
replace corroded spiral ducts**

## One of the biggest sewage treatment plants in Germany is made future-proof

14.000 tons of annual dried sewage sludge are a great challenge for men and material

### Task

The waste water from Bremen and the surrounding area is cleaned by 2 sewage treatment plants – the bigger plant in Seehausen is designed for a so called 1 Million “population equivalent” and daily processes 130.000 cubic meters water from private households and trade. A cleaning cycle takes about 45 hours. Solid materials, organic waste water ingredients and the nutrients nitrogen and phosphorus are removed here. Solid materials are e.g. waste, sand, micro plastics and most of all: sewage sludge. Treated biologically in the digestion tanks and therefore mostly deactivated, the sludge is drained to be used in agriculture or (as of 2029 solely) for combustion. For this preferably dry “material” is demanded, which is processed under immense energy input. During this drying process great amounts of chemically contaminated steam result at high temperatures, which condensate in the uninsulated ventilation ducts and cause great damage by corrosion.

### VENTAFLEX® solution

New air ducts, which could meet the extreme requirements in future, were searched for the renovation of the plant: The components of the VENTAFLEX® program were the right ones without any alternative. Thanks to the chemically and biologically influence-resistant GRP material, the wide range of temperature resistance (-40 °C up to + 60 °C) and the excellent insulation quality the VENTAFLEX® air ducts should have clearly upgraded the working environment of the sewage treatment plant Seehausen.

For the two construction phases of this project 450 m ducts with a diameter of 650, 820 and 920 as well as throttles and compensators were installed.



Exchange of the conventional spiral ducts with VENTAFLEX® air ducts: Material and insulation wins!



### Advantages due to the VENTAFLEX® system

- + **Special chemical and biological resistance** of the GRP-material
- + **Great temperature tolerance range**, resistant from -40 °C to 60 °C
- + **Comfortable cleaning** of the smooth surface of the GRP material
- + **Ideal thermal insulation WLS 022** reduces condensate formation
- + **Up to 70 % less weight** – important for statics and handling
- + **Reduction of the operating costs** – up to 40 % less energy loss, up to 10 % less pressure loss and up to 99 % less leakage loss

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