

CASE STUDY

Sulzer Turbocompressors Boost 19 Years Old Aeration System

The Ostrowiec Swietokrzyski wastewater treatment plant with a capacity of approximately 25,000 m³/d was built in Poland in 1995. Sulzer delivered and installed the aeration system with 3,392 porous disc diffusers into two aeration basins. The carbon component treatment system was the best and most efficient aeration system at that time. After 12 years of trouble-free operation, the wastewater treatment was modernized to purify also nitrogen compounds. Sulzer delivered new components to the aeration system and 450 membrane diffusers were installed in the DN/N zones.



The old basin with new Nopon aeration system

“ This was the 3rd time we delivered equipment to the Ostrowiec plant. It is a pleasure to hear from the customer that he trusts our technology and products – and this for almost 20 years already. ”

Marcin Jankowski, Sales Manager, Sulzer Pumps Wastewater Poland

The Sulzer difference

- Clever aeration and mixing solutions ensure efficient treatment at low power consumption.
- In the high speed turbocompressor market, Sulzer is the leader in magnetic bearing technology.
- The Sulzer turbocompressor type ABS HST offers reliable operation and top efficiency at the best whole life cost while minimizing the environmental impact.
- The reliable disc diffuser system type ABS (Nopon) is one of the world's most widely-installed fine-bubble aeration systems.

The challenge

The next plant modernization was planned for 2014. The problem of the treatment line was a very old PD compressor with high energy consumption. The customer was looking for a reliable partner with high technological knowledge to come up with an energy-efficient and reliable long-term solution.

The solution

The customer was satisfied with the previous projects, and consequently asked Sulzer for a short energy audit of the treatment line. As the result of the audit, Sulzer was assigned the task of modernizing the 19 years old aeration system. The modernization comprised the delivery of a new aeration system for the 3rd line as well as four high-efficient HST turbocompressors to the plant.

Sulzer provided a reliable aeration system with high efficiency and extremely long-life membrane diffusers, as compared to competing products. The efficient turbocompressors help lower the energy consumption of the treatment plant.

Customer benefit

- The customer chose to work with a long-term partner – no obstacles in operation for the past 19 years.
- The successful modernization resulted in an efficient treatment plant equipped for nitrogen and phosphorus removal.
- More than 20% lower energy consumption of compressors compared to previous equipment

Product data

- Turbocompressor type ABS HST 2500
- Disc diffuser system type ABS HKL 215
- Disc diffuser system type ABS KKI 215

4 turbocompressors type ABS HST 2500-1-H

Total capacity	10,800 Nm ³ /h
Pressure rise	60 kPa
Total input power	332 kW

For more information on our products and solutions for wastewater treatment, please visit sulzer.com



The new turbocompressors improve the efficiency of the Ostrowiec plant

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Applicable markets

Aeration of industrial and municipal wastewater

Applicable products

Disc diffuser system type ABS,
turbocompressor type ABS HST