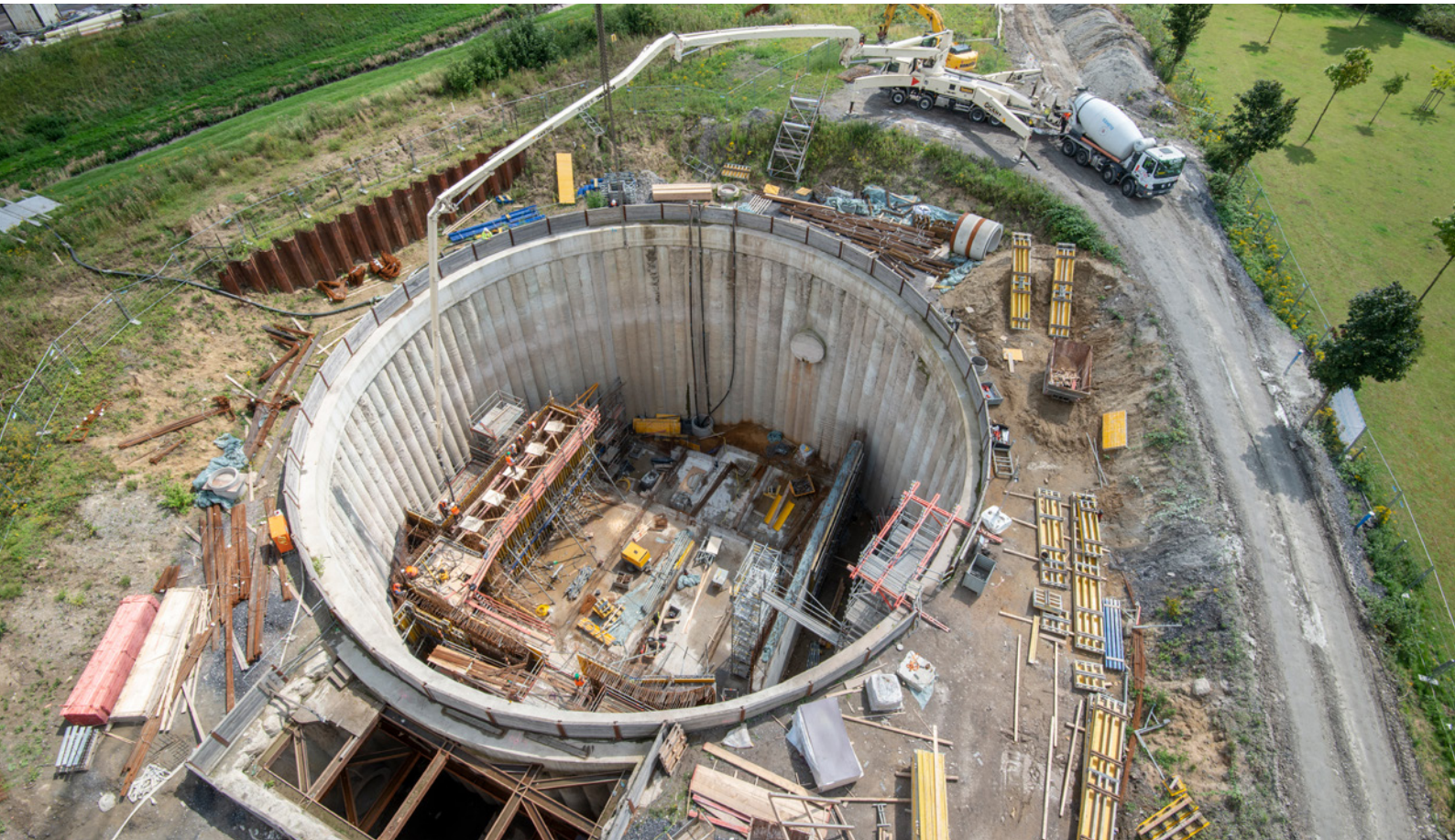
SULZER

CASE STUDY

Sulzer delivers pumps for the largest water construction project in Europe

As part of the reconstruction of the Emscher river and its tributaries, a multistory underground facility is being built in Gelsenkirchen at the river Hüller Bach. This project comprises three reservoirs, two rainwater treatment plants and three pumping stations. The excavation has a diameter of around 33 meters. Numerous and sometimes very large pumps are needed because of the large quantities of water. Sulzer delivered the submersible pumps for the plant that is expected to be operational in 2020.

Building site of the rainwater treatment plant at the river Hüller Bach



“We are very happy that our pumps were chosen for the ecological reconstruction of the Emscher river.”

Rafael Lellesch, Sales Manager at Sulzer in Bonn, Germany

The challenge

As soon as the pumps are in operation, the underground parts of the plant will occasionally stand under water and be difficult to access. Therefore, the customer sets high requirements on the pumps. Due to the limited space available, the pump installation was executed as a two-story construction. The installation had to be space-saving, compact and easily accessible for maintenance in the two-story setup.

The solution

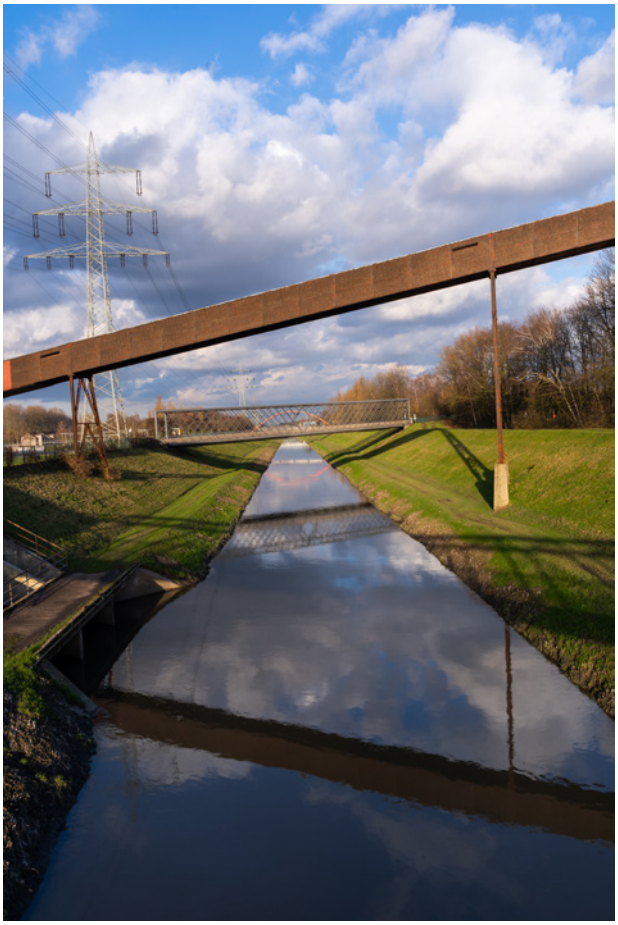
The 19 pumps that Sulzer supplied are of the series XFP and AFLX. The AFLX series is designed especially for space-saving installation in concrete shafts or steel riser pipes. All 19 submersible pumps are in wet installation. The maximum drive power is up to 400 kW. The heads of the large peak load pumps lie between 7 and 23 m, and the maximum flow is just under 2’000 l/s per pump. Thanks to their design, these IP68-classified submersible pumps are both flood-safe and very space-saving.

Customer benefits

- Flood-proof pumps and reliable pumping.
- Suitable for clean and dirty water, for wastewater that contains solids or fibrous material as well as for feces and sludges.
- Significant building cost advantage through submersible pumps in wet installation.
- Low life cycle costs thanks to drive motors of energy efficiency class IE3 with Ex protection.
- Integrated monitoring and control equipment.
- Optimum balance between efficiency and solids transfer.
- Maintenance and wear-free mechanic backstops against uncontrollable behavior at backflow.
- Non-return valves not required.
- High efficiency without compromising particle size and blocking resistance.

The Sulzer difference

- Reliable support thanks to expertise in engineering.
- A wide product range allows the best possible adaptation to the requirements of the end customer.
- Flexibility in selection and the high number of options offer the customer cost advantage and the best possible security.
- Exact adaptation to the existing operating points and reliable monitoring devices.



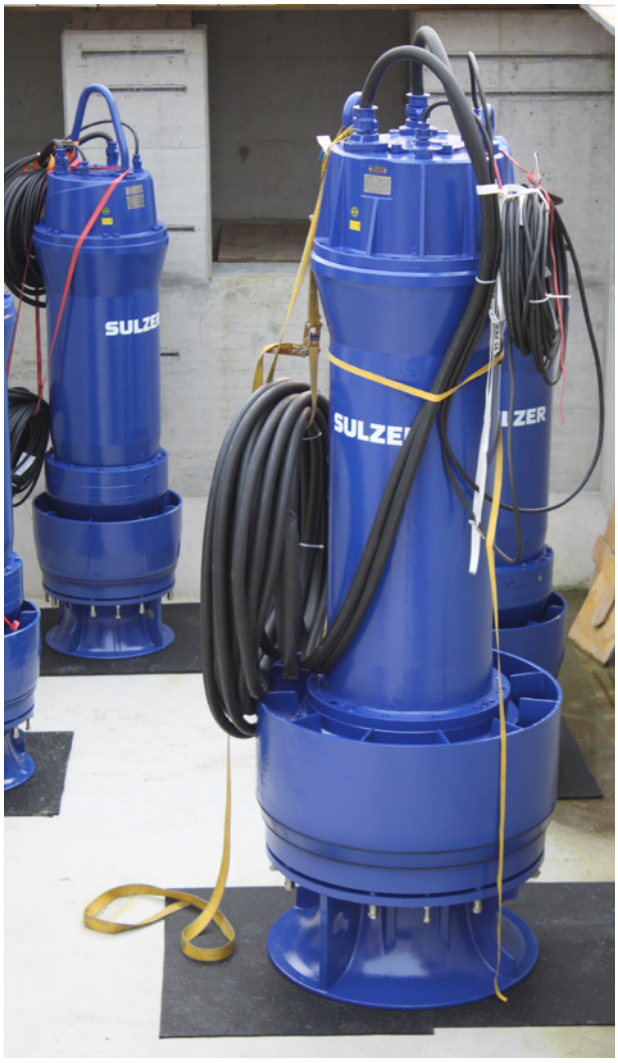
View from the Emscher river

Product data

Sulzer submersible pumps type ABS AFLX and sewage pumps type ABS XFP:

XFP 80C-CB1 PE22/4C	1 pc
XFP 80C-VX PE15/4C	1 pc
XFP 100E-VX PE90/4E	1 pc
XFP 100G-CB1 PE160/4	1 pc
XFP 100G-CB1 PE220/4	1 pc
XFP 356M-CB2 PE1100/6 PE6	2 pcs
XFP 351M-CH3 PE1320/6 PE6	2 pcs
AFLX 0803-SK4 PE2000/6 PE6	5 pcs
AFLX 1207 PE4000/8 M9(PE)	5 pcs

All pumps include monitoring and related control relays.



All 19 Sulzer pumps are of the series XFP and AFLX. One of the five big AFLX pumps with a weight of about 5 tons in the foreground.

This pump series is specially designed for installation in vertical pressure pipes. It is provided with highly efficient, semi-axial impellers with low NPSH values.

For any inquiries please contact

rafael.lellesch@sulzer.com

sulzer.com