



A new sewage transport and treatment system in Antwerp now ensures environmentally friendly wastewater management that improves water quality in the river Scheldt.

No more Antwerp wastewater in the river Scheldt thanks to Grundfos pumps

ANTWERP, BELGIUM: Until recently, only 69% of the wastewater in Antwerp was purified before being discharged into the river Scheldt. Wastewater generated by 70 000 inhabitants travelled through old brick sewers directly into the river Scheldt without any treatment.

In October 1999, the city of Antwerp joined forces with Aquafin, the licence holder for the sewage treatment infrastructure in Flanders, to embark on an immense wastewater project: a new wastewater treatment plant. The objective of the project was to treat 90% of all wastewater from Antwerp, and this goal will even be exceeded. Grundfos is proud to be part of this ambitious and worthwhile undertaking.

Grundfos provided

- ▶ Large-scale pumps to suit customer requirements
- ▶ Reliable technology for difficult tasks
- ▶ Professional co-operation on a large-scale project

The situation

Grundfos supplied heavy-duty pumping technology to help the project meet its goals, but even this important contribution was just one aspect of the huge task performed by Aquafin. Special care was needed for eight of the discharge points of the old brick sewers, and because of the historic value of the quay of the Scheldt with its attractive monuments and archaeological sites, through-pressing technology was applied under the quay walls and city foundations. A collector (diameter 1600mm, length 3040m) located at a depth of 9m below the level of the old brick sewers catches the discharges and transports the wastewater to the pumping station Krijgsverlaat through gravitational system.

The collector was constructed below ground by means of a total of eight press pits, which are the only visible signs of the collector works above ground. From these press pits, pipes were pressed through a tunnel excavated by a drilling shield.

The wastewater from the pumping station Krijgsverlaat is pumped through a raising main to the Kielsbroek just outside the city. Here, the new wastewater purifying plant Antwerp-South replaces the old lagoons.

The Grundfos solution

The new Krijgsverlaat pumping station contains three dry-installed heavy-duty wastewater pumps from Grundfos (315 kW with VSD-drive) situated at a depth of 20m. Together, the three pumps can pump up to 1750 litres of wastewater per second, serving the centre of Antwerp as well as wastewater from the suburbs Kiel, Hoboken, Wilrijk and Hemiksem.

The outcome

The pumped wastewater is discharged through a raising main (1830m) to the wastewater treatment plant, which was finished in early 2004. Tests commenced in February 2004 and are progressing as planned.

By 2006, the wastewater generated by 32 000 inhabitants of Antwerp-North will be connected to the system, allowing it to be used at full capacity. This will ensure that 96% of all Antwerp sewage water is purified before being discharged into the Scheldt. Furthermore, 8 km of old brick sewers will be redeveloped by 2007, thereby improving wastewater transport.

Grundfos has followed the entire process with great interest and takes pride in having been part of this impressive project and the environmental benefits it brings to the river Scheldt and the surrounding area.



Pump data

- > 3 x 315 kW heavy-duty wastewater pumps, dry-installed
- > Head: 25 m
- > Flow: 875 l/s



Project data

- > Customer: Aquafin, Aartselaar, Belgium
- > Contractor: SMET Groundwater Technics
- > End-user: The City of Antwerp