

Flygt Concertor Eradicates Wastewater Pump Blockages for Yorkshire Water

SUPPORTING CHALLENGING PUMPING STATIONS

Yorkshire Water collects, treats and distributes approximately 1.26 billion litres of water as well as recycling and safely disposing of 1 billion litres of wastewater back into the environment every day. The organisation delivers this service to the 5 million people across its 4600-square mile area.

The Challenge

Yorkshire Water covers one of the largest areas in England and one of the key challenges of its network of wastewater pumping stations was pump blockages. These issues require reactive, time-consuming visits from its operations and maintenance team, which incur significant costs in fuel, time, resources and disruption to local residents.

Yorkshire Water's Dynamic Maintenance Team identified that they required an easily deployable solution that delivered tangible benefits across the network.

A particularly problematic site, requiring 2-3 reactive visits a week due to pump blockages, was chosen for an initial trial.

The Solution

Xylem reviewed the Burnshall Car Park site and having considered Yorkshire Water's specific requirements, the Flygt Concertor N pump was selected due to its excellent clog resilience and pump cleaning. The Concertor N also enables constant power, motor efficiency comparable to IE4, self-correcting correct impeller rotation regardless of phase connection and built-in motor protection. Its simple connectivity into Yorkshire Water's existing wastewater network control system meant that the pumps could be quickly installed. It took little time for the Flygt Converter N to start showing impressive results.

"The Burnshall site had long been problematic for us, and as a public utilities company, these issues directly affect the residents in the local area. Working with Xylem has enabled us to eradicate those problems and make our network much efficient. We were very impressed with the standard of the installation, while the team at Xylem were on hand to respond to any issues extremely quickly. We're now looking forward to exploring more projects with Xylem, taking advantage of their extensive product range." **Nev Barugh**
Asset Technical Support Engineer, Yorkshire Water



Flygt Concertor trial pumps being delivered to Yorkshire Water's Burnshall Car Park site.

COST SAVINGS SECURED

- Total efficiency of the Flygt Concertor N has reduced the ownership costs including a 93% reduction in previously required inspections.

POLLUTION REDUCTION

- Due to the improved blockage resistance.
- 51% estimated reduction in reactive callouts to completed sites.

ENERGY USE REDUCTION

- Improvement in hydraulic efficiency compared to legacy pumps has contributed up to a 29% reduction in power consumption.

EMISSIONS/CARBON REDUCTION

- Removal of reactive journeys to and from site for call outs.
- Over 800 cumulative visits to site avoided on completed sites.

The Results

Two Concertor pumps (N6020.091s 2.4kW 80mm) were installed at Burnsall Car Park, the problem site. Since the installation in January 2019 there have been **zero blockages recorded**, meaning that reactive visits to site for this issue **were completely avoided**.

Having proven the pump's clog resistant credentials, Yorkshire Water Dynamic Maintenance team decided to roll out the Flygt Concertor Pump across its most challenging pumping stations. The simple connectivity of the Flygt Concertor Pump into existing networks has meant that in less than a year Xylem has delivered solutions to over **150 dual and triple pumping stations** with a further 211 on plan for Yorkshire Water.

As a result of the widespread installations, Yorkshire Water has experienced positive results in the problem stations where the Flygt Concertors were fitted:

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Energy use reduction

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Emissions/Carbon reduction

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"Products like the Flygt Concertor Pump can provide customers with tangible benefits that offer significant benefits to their organisation. In this case, we're extremely happy to have been able to eliminate the need for reactive visits by avoiding water blockages. It's a testament to our team that they were able to work with Yorkshire Water to identify the issue, recommend a solution and ensure a smooth installation so the organisation could reap the rewards in a timely manner. We're excited for future collaboration with Yorkshire Water." **Jason Robinson, Key Account Manager to Yorkshire Water at Xylem**



Installation of Flygt Concertor at Yorkshire Water's Burnsall Car Park site.



FLYGT CONCERTOR N

The Flygt Concertor N is a reliable, flexible and energy efficient pump capable of being connected to DOL or Star Delta Starting - On/Off pump stations.

The pump provides user configurable adjustable pump performance, maximising asset flexibility to cover a great many pumping stations with a small number of pumps. The clog resilience and pump cleaning operates straight out of the box without the need to make any adjustments. 5 to 60 second soft start reduces the pressure surge on the rising main, and peak loading on the power supply during the pump start up all of which can lead to lower operating costs.