

HST™ reliability and fast delivery wins NWL order

Concerns with high maintenance costs and regular failures of the aeration blowers at Hendon STW prompted Northumbrian Water (NWL) to look for a long-term solution. Following their first order of HST blowers at Howden Sewage Treatment Works (STW), they asked Sulzer to help.



“Northumbrian Water was looking to replace the aged assets on the aeration plant at Hendon STW, the existing blowers had been operational for 20 years and had reached the end of their economic life. A capital investment scheme was started to provide the business with a more economical and reliable aeration system for years to come, and based on the huge success of an earlier project at Howdon STW, we chose to purchase the Sulzer HST blowers again.”

Adam Bell, Northumbrian Water Project Manager

The challenge

NWL's concerns with the poor reliability and rising running costs of their 20-year-old aeration blowers at Hendon STW meant a solution was needed. The terminal failure of one of these blowers in late 2019 which required a long-term Sulzer hire blower to be installed on site caused the project to become critical.

Challenges

- Short lead time
- Good reliability with low maintenance
- Low energy costs
- Keep the treatment process running

The solution

The solution was three HST 30 blowers supplied in containers, new blower control and a new air manifold. The off site construction of the blower package and a second hire blower considerably reduced the site installation time.

Complete design by the Sulzer experts

- HST 30 blowers with integrated Variable Speed Drive (VSD) and high-speed magnetic bearing motor
- Proven high reliability and low maintenance cost
- Installation by Aermech Ltd., Sulzer's approved aeration installer
- Second hire blower to allow continuous installation

Project data

Original blowers

- 3 x Howden Donkin SG30
- Max flow 8'874 m³/h
- 250 kW motor

Replacement blowers

- 3 x Sulzer HST 30-36-1-250
- Max flow 10'600 m³/h
- 250 kW motor

Service interval and duration

- Annually
- 2 hours / blower



HST turbocompressor

Customer benefit

When NWL decided to use HST blowers Sulzer engineers met with their project team to get the best solution where it was agreed for Sulzer to supply a second hire blower during the installation so the air manifold and blower control could also be replaced. Although higher equipment cost the benefit of replacing the air manifold reduced the installation time and the new blower control would allow for blower optimization to reduce energy costs.

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- HST blowers with their proven low energy consumption and maintenance will reduce NWL operation costs
- HST blower control is proven to give reliable and reactive control for the aeration process
- No drop-off of efficiency due to wear
- Delivery 13 weeks from order
- Install and commissioning three weeks from delivery
- Customer forecasts payback on project in 2 years
- Significant maintenance savings

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