LAMSON 2006

Case Study

Hoffman & Lamson Provides Efficient, High-Performance Blowers for Wastewater Treatment Plant Expansion

When the our customer required a set of efficient, high-performance blowers to complete the expansion of their Wastewater Treatment Plant, they turned to the experts, Hoffman & Lamson to supply a pair of blowers that would provide the performance and reliability goals of the project, while efficiently meeting the region's growing demand for clean water.

Our customer provides wastewater treatment services to several Texas cities and is connected to over 300 miles of collection lines and capable of treating 21.5 million gallons of wastewater per day.

Overview

LOCATION
Texas, United States

APPLICATION
Municipal Wastewater Treatment

PRODUCTS
- 2 LAMSON 2006-ADOI Multistage Centrifugal Blowers

CUSTOMER BENEFITS
- Increased Capacity
- Maximized Reliability & Efficiency
- Reduced Maintenance Requirements

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The plant utilizes an activated sludge process called aerobic digestion to treat wastewater. This process relies on bacteria and micro-organisms to digest and combine solids present in the wastewater. Typically, wastewater is pumped into aeration tanks or basins, where it is mixed with the bacterial sludge mixture. Then, oxygen is injected into the mixture with the use of high-capacity blowers. Once aerated, the mixture is transferred to a settling or clarification tank, where the sludge is left to settle, leaving clear, treated water behind.

The left-over sludge is re-injected back into the aeration tank or basin, where the treatment process repeats. Depending on the levels of treatment required, water can run through a system several times and treated using additional methods and equipment to achieve the desired level of purity.

BALANCING PERFORMANCE & EFFICIENCY

Having been in operation for over 30 years, the plant's existing infrastructure was beginning to show signs of wear and straining to meet the needs of the region's growing population. To address the growing demands, the plant's operator commissioned a firm to deliver an upgrade project that would increase the plant's capacity to 30 million gallons per day.

The scope of the project included the construction of two new aeration basins, complete with treatment and disinfection units, blowers, an influent lift station, solids handling equipment, and all auxiliary piping and electrical equipment. Centrifugal blowers are crucial to the success of the project because they will effectively enable and drive the plant's activated sludge treatment process.

As a public utility, operational costs were top of mind when selecting equipment for the project. With the traditional blowers accounting for much of the energy used within wastewater treatment plants, the team at the firm understood that any equipment chosen needed to provide high-efficiency operation without sacrificing the performance required to deliver the projects planned capacity increase. Reliability and low maintenance operations were also crucial in helping the plant keep future costs in check.

With these requirements in mind, the firm turned to Hoffman & Lamson to provide a reliable, high-performance, high-efficiency solution for the project.

MAKING THE RIGHT CHOICE

Hoffman & Lamson provided two LAMSON 2006-ADOI high-flow inlet multistage centrifugal blowers to provide a reliable supply of air to the plant's aeration basins. Ideal for large scale, demanding industrial applications, the 2006-ADOI blowers are equipped with an 800HP motor and are capable of providing a flow of 12,220 SCFM, with a discharge pressure of 10 PSIG. Engineered from the highest quality materials, using state-of-the-art tools and techniques; the 2006-ADOI series comes equipped with a range of standard features that are designed to maximize performance, efficiency, and reliability.

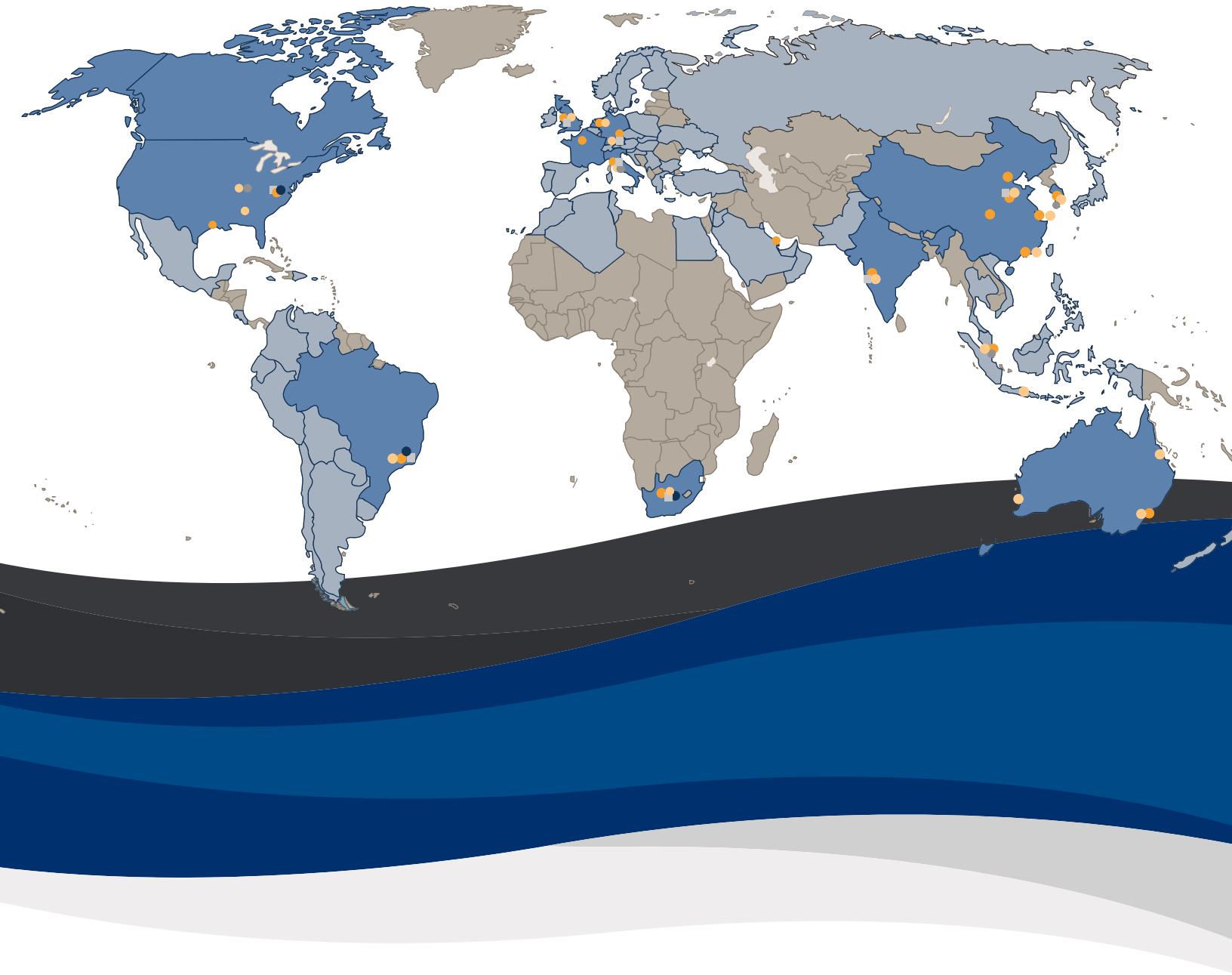
Featuring HOFFMAN & LAMSON's patented Multiple Baffle Ring (MBR™) design, combined with our two dimensional, shrouded impellers; the 2006-ADOI maximizes efficiency, without sacrificing pressure/vacuum capabilities. The blower comes standard with non-contact, non-wearing labyrinth air seals, minimizing maintenance requirements. Durable, high-grade cast iron housings combined high strength steel tie rod assembly ensure that the 2006-ADOI provides long-lasting performance and durability.

For the treatment plant, Hoffman & Lamson also equipped each blower with 20" Tri-Vent Inlet Filter/Silencers, 24" Check Valves, and Rexnord Thomas Spacer Couplings; ensuring a clean air supply into the blower, reducing noise, and preventing backflow. Hoffman & Lamson also supplied blower protection and control panels; providing protection from changing environmental conditions, excessive vibration, and power surges.

LOOKING TO THE FUTURE

Delivery of the equipment is scheduled for late 2020, with completion of the expansion project slated for 2023. Following start-up and commissioning, the multi-stage centrifugal blowers provided by Hoffman & Lamson will work to provide residents with clean water.

The blowers will efficiently and reliably aerate and treat approximately 8.5 million gallons per day of wastewater. With the blowers exceeding the 75% efficiency requirements outlined by the project, the facility will actively help this municipality save energy and keep operational costs to a minimum, all while allowing the wastewater treatment plant to meet the region's growing wastewater treatment demands.



To find out more about HOFFMAN & LAMSON solutions for Wastewater Treatment visit www.HoffmanAndLamson.com

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