

Oklahoma Municipality Improves Pump Reliability in Abrasive Conditions

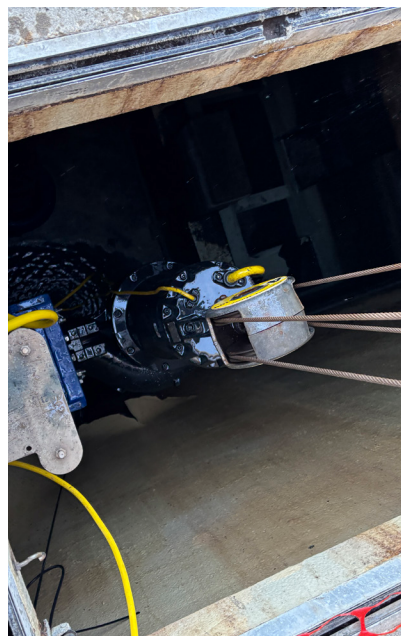


Lift station operator guiding installation of the AVANT MQB submersible pump to improve performance in demanding wastewater conditions.

Wastewater lift stations operating in abrasive conditions can present ongoing challenges for municipalities seeking reliable performance and long service life. When the City of Broken Arrow, Oklahoma, evaluated improvements at its Lynn Lane Wastewater Treatment Plant, the city sought a pumping solution capable of handling demanding operating conditions while supporting efficient system performance.

The project centered on replacing a worn pump that had been operating in a highly abrasive wastewater application. With extended run times and changing flow conditions placing significant demands on equipment, the city needed a durable solution capable of providing dependable operation while minimizing concerns about wear.

Working with Smith Pump Company, the city selected a Tsurumi AVANT FM-approved, explosion-proof 10-inch MQB250C submersible wastewater pump. To help withstand the abrasive environment, the pump was supplied with Molib-tech protective coating applied to critical hydraulic components, including the impeller and volute surfaces.



(L-R) AVANT MQB pump installation in lift station; close-up of AVANT MQB pump prior to installation.

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The 50-horsepower pump was installed and commissioned in November 2025 at the Lynn Lane Wastewater Treatment Plant. Designed to deliver approximately 3,500 gallons per minute at 30 feet of total dynamic head, the AVANT pump serves as the plant's main influent lift station, which has a

wet well depth of approximately 31 feet. The unit operates alongside an existing pump and automatically adjusts to changing flow conditions throughout the day.

Since startup, the installation has delivered positive results. According to plant personnel, the pump typically operates approximately 17 hours per day while accommodating changing influent flows entering the facility. "The pump is working great and seems to be performing quite well," said David Handy of the City of Broken Arrow. "We are very pleased with the performance of the pump so far."

The successful performance has already influenced future planning at the facility. Based on the results achieved since install the first several months of operation, the city is evaluating the replacement of another existing pump with an additional Tsurumi AVANT unit. The proposed upgrade would allow the facility to utilize the AVANT pumps as primary duty units while retaining larger pumps for heavy inflow and infiltration events.

While the installation continues to accumulate operating hours, the early performance demonstrates the AVANT MQ series' ability to provide dependable operation in demanding municipal wastewater applications. The project highlights how proper pump selection and abrasion-resistant design features can help municipalities improve operational efficiency while planning for future infrastructure needs.

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The AVANT MQB pump provides reliable operation at the plant's main influent lift station under demanding conditions.

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