

Successful Pumping of Heavy Sludge

New N-impeller design pleases Parry Sound, Ontario

Scope

In early 2002, the Town of Parry Sound, Ontario needed to replace one of its sludge loading pumps because it was prone to clogging and breaking down. This application primarily involved the transfer of digested sludge to a truck loading station for removal. The pump was also used periodically to mix the primary digester by recirculating some of the wastewater. The pumped sludge may contain up to 6 percent solids by weight and includes rags.

Solution

Following a site visit to view the installation, Parry Sound's Xylem representative (Bruce McFadden, Sudbury, Ontario), recommended a vertically mounted, self-cleaning N-pump, Flygt NT 3102 MT.

The proposed pump features the N-impeller design, which would offer clog-free operation and sustained pump efficiencies.

Unlike traditional grinder pumps, the N-pump is designed to prevent clogging and drag from accumulated material on the impeller, maintaining continuous, efficient flow with the leading edge of the rotating impeller passing across a stationary relief groove in the pump volute. The dynamic action cleans and pumps away rags, stringy materials and solids without compromising hydraulic efficiency.

To ensure customer satisfaction with this revolutionary concept, Parry Sound was offered the use of a pump for a two-month trial period.



The new TWAS pump, Flygt NT 3102 MT

END USER:	Town of Parry Sound, Ontario
CLIENT:	Town of Parry Sound, Ontario
ORDER DATE:	2002
COMPLETION:	2002

Result

The Flygt NT 3102 MT pump was subsequently installed and operated flawlessly throughout the test period.

Plant operators were pleased with the results, and they were amazed by how quiet and vibration free the pump was. Parry Sound decided to purchase the pump at the end of the two-month trial period.

Based on the success of the first pump, Parry Sound wanted to look at a second application - replacement of a Thickened Waste Activated Sludge (TWAS) pump. The existing pump was an older, positive displacement type that was bulky, noisy, slow and awkward to service. Pumped media typically contained 3 to 4 percent sludge. A second Flygt NT 3102 MT was purchased and installed. Again the operators were pleased, finding that the N-pump quietly drew the tank down in less than one-third of the time previously needed. An additional advantage was that the two Flygt pumps were identical, making them interchangeable, and minimizing the number of spare parts to stock.



Old sludge loading pump similar to the one replaced



New sludge loading pump

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