



CORNELL PUMP COMPANY

APPLICATIONS

MUNICIPAL



Expansion of Brussels sewage plant with six Cornell Model 18NHFL-RP-F20 pumps, each pumping 2500m³ per hour



Constructing pump station with suction lines leading from decanting tanks



Vertical discharge lines exiting the pump station

EUROPEAN WASTE WATER PLANTS USES CORNELL PUMPS TO REDUCES FOAM, HELP SLUDGE SETTLE

Two major wastewater treatment plants in Brussels faced issues with sludge circulation in the decanting basins; using the previously installed pumps created too much foam, leading to sludge particles floating near and on top of the water's surface. Because the sludge was not settling into the basins as expected, the extraction process was not as effective as designed, and the pumps used more energy than anticipated to operate.

The plant manager wanted an efficiency change; that desire led to a change in extraction strategy. To alleviate the problem of the excessive foam, it was decided to pump sludge from lower tanks to higher tanks with Cornell Self-Priming pumps. These innovative Cornell pumps helped remove the excess air from the sludge before it was pumped into the upper tanks and came into contact with the surface mixers.

Cornell's self-priming pumps helped remove air bubbles from the water. Observers could hear the vacuum pumps extracting the air separated from the water by turbulence. That was an issue that was solved beautifully by using Cornell self-priming pumps.

The installed Cornell pumps have two functions at the plant: initial priming at start-up and extracting the excess air during the pumping process. These pumps are driven by 90kW electric motors and controlled by variable frequency drives that operate between 400 and 600 RPM at the pump shaft. The maximum hydraulic efficiency of the pumps is 87.3%!

Six Cornell 18NHFL pumps have worked effectively at the Brussels plants since February 2011.