

Sonic-Pro® S3 Flowmeter Helps Maintain 'Food to Microorganism' Balance in Return Activated Sludge Line

Location:

Keene Waste Water Treatment Plant

Application:

Keene Waste Water Treatment Plant uses a secondary treatment process called activated sludge, a process which converts non-settable substances into a biological floc. This substance is developed in aeration tanks and settled out in final settling tanks. Activated Sludge is an aerobic process which promotes the health of microorganisms, ensuring effective treatment. A food and oxygen to microorganism balance must be maintained for optimal treatment. One element of maintaining the biomass requires returning of a portion of the settled sludge from the final settling tanks back to the aeration tanks, keeping the bio system balanced. This portion of the activated sludge is referred to as RAS (Return Activated Sludge). The RAS is returned to the aeration tanks via variable speed centrifugal pumps where accurate flow rate measurement is critical to ensuring a proper 'food to microorganism' ratio is maintained. The RAS flow rate is determined by laboratory analysis of the microorganism's health, the flow rates are adjusted accordingly.

Problem:

Keene Waste Water Treatment Plant required flow measurement in a Return Activated Sludge line.

Previously, a Magnetic Flowmeter had been selected for the job, however they were getting a high variance in read out measurements. It was determined that there were stray electrical interference currents causing the inaccurate readings. Due to its failure in accuracy, Keene Waste Water Treatment Plant sought an alternative that would handle the job. Because Ultrasonic Flowmeters only measure sound waves, the electrical interference would not hinder its performance.

Installation & Solution:

The treatment facility required reliable flow measurement with 4 to 20mA output on an existing 18" ductile iron RAS line. The Blue-White® Sonic-Pro® S3 Ultrasonic Flowmeter proved to have all the capacities necessary for the task. Utilizing the dual Z-Mount T-Track mounting system, installation of the flow meter was completed within 60 minutes. With an easy to follow instruction guide, the electronics were configured quickly to accurately measure the flow of the RAS pipe. The Blue-White® Sonic-Pro reliable flow measurement was able to solve the facilities system requirement, without any intrusive equipment, or altering of the existing pipeline.

