

## OVERVIEW

As regulations surrounding wastewater treatment become increasingly more stringent and costs for chemicals, equipment maintenance, waste hauling and disposal fees continue to rise, investing in the right water treatment technology can yield significant returns. Upgrading polymer feed and activation equipment offers an opportunity to realize immediate savings by reducing polymer usage and disposal fees, resulting in a short payback period.

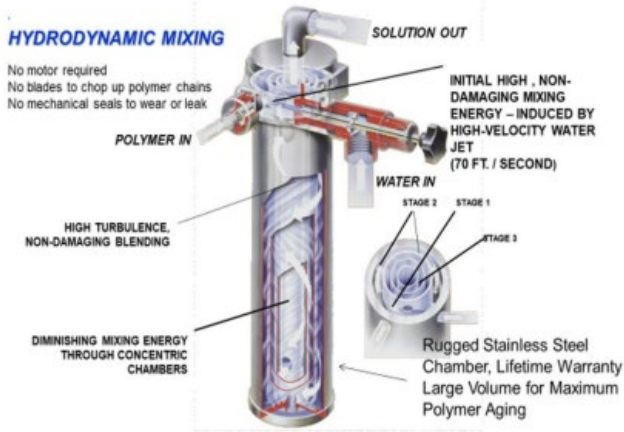
In 2013, a leading producer of industrial coatings, resins and additives sought to upgrade the industrial wastewater treatment processes at its Connecticut manufacturing facility. The company treats an average of 3 to 5 MGD of industrial wastewater each week at this location through a system of flocculation, clarification and dewatering via a belt press. The resulting solid waste is then hauled off-site for disposal. The company began by focusing on its existing polymer feed equipment which, though still in operation, was between 15 and 20 years old. The company's process engineer, working in consultation with UGSI Chemical Feed, Inc. – Cleanwater1 and its local manufacturer's representative, determined the Dynablend™ liquid polymer feed system would provide the best results for the specific application.

The company installed four Dynablend™ L4S-300 liquid emulsion polymer feed systems employing a unique pump configuration to fit the specific application. Two skids contained peristaltic pumps, each with a 4.6 gph capacity, and two skids contained progressive cavity pumps with capacities ranging from 6 to 10 gph. All four of the skids included the latest control technology from Cleanwater1. The inclusion of magnetic flow meters and sensors, combined with SCADA capabilities, meant the entire polymer feed process could be automated and monitored remotely. The control technology included remote on-off, pacing signal for speed adjustment of the polymer feed pump, alarms for low water and low polymer flow, running indicator, pump rate indicator, water rate indicator, and solution concentration indicator.



Dynablend™ polymer feed equipment with controls

The investment in the Dynablend™ technology immediately resulted in greater polymer efficiency, reducing the amount of polymer needed for the treatment process. In addition, the upgraded polymer feed systems reduced the operating and maintenance requirements for the staff, while the remote monitoring and control capabilities greatly reduced the labor previously required to manually operate and adjust the equipment. The company continued to invest in new equipment in other parts of its wastewater treatment system, including the clarifiers and belt press. The resulting operational efficiency enabled the company to greatly reduce the labor required to operate and maintain the wastewater process equipment. The investment in the Dynablend™ technology proved to be a smart one, with a return-on-investment of less than two years.



Hydrodynamic Dynablend™ mix chamber detail



Dynablend™ skid and mix chamber

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