

Pumping polymers in dewatering

- **Polymer caused diaphragm pumps to clog**
- **Precise metering prevents chemical overdosing**
- **Consistent metering irrespective of chemical viscosity**

Environmental consulting firm Pescador LLC treats groundwater using a niche polymer, Polyacrylamide (PAM) to act as a flocculant.

As one of the steps utilised in Pescador’s process, this polymer attracts organic material, pin-flocs that float in the solution, to concentrate them as a larger floc, so that dissolved air flotation (DAF) can push the debris to the surface and it can be skimmed off.

However, PAM and other polymers challenge traditional pumping systems. Using a diaphragm metering pump, equipment failure plagued Pescador with downtime and high costs. “We had constant maintenance challenges,” recounts Plant Manager Ryan Wcisel. “They were always clogging up; the dosing wasn’t very accurate—it was a struggle to keep the equipment running optimally.”

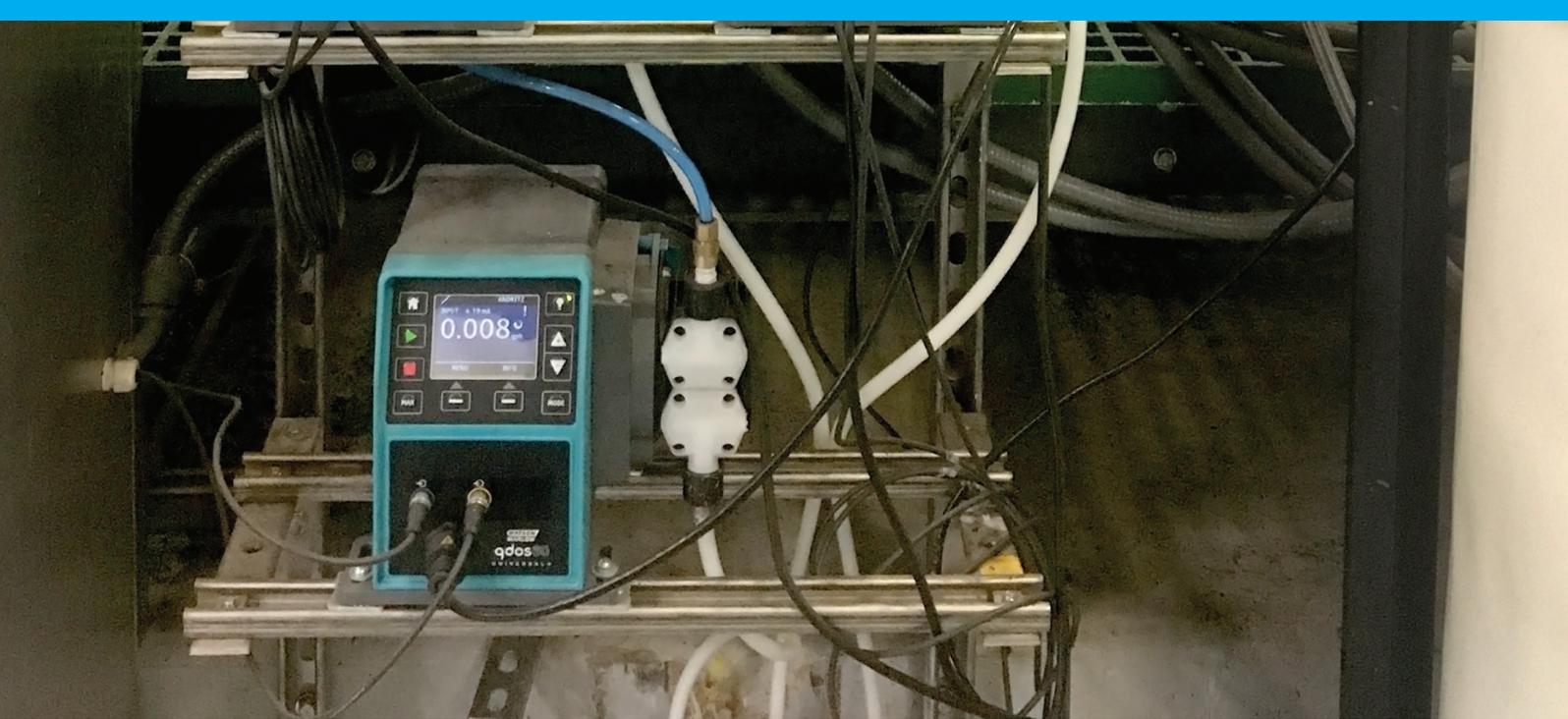
Searching for a better solution to their pumping problems, Pescador

contacted Watson-Marlow and decided to trial the Qdos 20 ReNu PU chemical metering pump, dosing 0.057 L/hr (0.015 USGPH), 24/7.

Pumphead resistant to aliphatic hydrocarbons

The ReNu PU pumphead is a new tube technology that increases the chemical compatibility range of Qdos pumps. Specifically designed with polymers in mind, the tubing is aliphatic hydrocarbon resistant. In addition to protecting the pumphead, the peristaltic pump protects the chemical itself. Polymers are susceptible to mechanical degradation. If agitated and mixed prior to use, the chemical will not work as intended.





Polymer degradation avoided

During the high-shear pumping process of a diaphragm pump, its moving parts come into contact with the polymer, damaging it and leading to clogging and pump failure. As a peristaltic pump, the Qdos 20 ReNu PU can pump polymer in a controlled and very low-shear movement without causing degradation.

Pescador now uses four Qdos 20 ReNu PU pumps, one on the DAF system and three on centrifuge units. Furthermore, when pumping polymer, the viscosity level of that chemical can change. “The accuracy of the dosing is unparalleled by anything else we’ve seen,” Wcisel says.

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