

Safer polymer pumping

- **Qdos pumps operate without ancillaries**
- **Greatly reduced maintenance requirements**
- **Chemicals totally contained within the pumphead**

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."

A Watson-Marlow Qdos with ReNu PU pumphead, was installed at the water treatment site and lasted over two years, pumping 0.057 L/hr (0.015 USGPH), 24/7, before the pumphead was replaced as part of routine maintenance.

Qdos pumps provided Pescador with a drop-in solution without the need for ancillaries. Whereas diaphragm metering pumps need four or five ancillary systems (back pressure valves, pulsation dampeners, strainers, float switches)—each with their own maintenance schedules. For example, the check valves on Pescador's original diaphragm metering pump set-up proved inadequate in the face of high viscosity. The Qdos pump also eliminated the need for flooded suction which the diaphragm metering pump depended on.





Qdos pumps minimise chemical waste

This consolidated system is entirely enclosed, offering a major improvement for spill reduction. Polymer is a very slippery chemical. Any leak entails a lengthy and involved clean-up process, and attempts to clean up polymer with water expands the chemical and perpetuates the clean-up operation.

With a diaphragm pump, this could easily consume up to two hours of clean-up time after a spillage. In the Qdos 20 ReNu PU system, the fluid is totally enclosed within the pumphead, so if a leak should develop, the pumphead contains all spillage. Especially valuable in cases of hazardous or expensive chemicals, this feature minimises chemical waste and avoids the entire spillage remediation process.

Pumps provide smart feedback

Moreover, the pump's smart notification system improves operational efficiency. When the tube ruptures or is at end of life, the Qdos 20 ReNu PU notifies the user. It also supports flexible batch process control, alerting an operator when a drum is almost empty. "One of the nicest features that we haven't found on anything else is the feedback that we get from the pump— to get an alarm that alerts the user to change the pumphead," says Wcisel. Along with an easy-to-use interface, this makes the pumps, he says, "very user friendly."

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