



Abrasive wear of piston diaphragm pumps at a water treatment plant results in process change to APEX pump

- Reagents metered by diaphragm metering pumps, caused excessive maintenance, siphoning and inaccurate dosing
- Bredel APEX pumps solved this issue and eliminated the need for non-return valves

A water treatment plant in Limoges, France uses traditional physico-chemical processes, which means that in order to produce clean water for drinking, reagents such as ferric chloride, an inorganic iron-based coagulant, must be injected.

Diaphragm metering pumps deteriorate fast

“We had been using diaphragm metering pumps, but found that these suffer abrasive wear by the coagulant”, says the manager of the plant. “We had to use non-return valves, but unfortunately the ferric was crystallising in the pump, and the valves became clogged. The impact of this was a build-up of deposits that form in the pipelines and increase the pressure.”

The valves, which were supposed to guard against the effects of siphoning, became stuck in the closed position and sometimes in the open position, demanding excessive maintenance and supervision.





Maintenance time reduced and reliability improved

The facility moved from diaphragm metering pumps to peristaltic technology in order to reduce maintenance and plant management time. When handling abrasive coagulants such as ferric chloride, peristaltic pumps proved to be an obvious choice.

“I remember our previous very positive tests on precise milk of lime dosing using Watson-Marlow pumps, and, together with their technicians, we conducted several months of testing with Bredel APEX hose pumps for flocculants,” says the manager. “We opened our new plant equipped with 12 APEX pumps.”

There are no longer any problems with pump reliability and dosing accuracy, or with blocked pipelines and ruptures. Additionally all the valves in the system have been eliminated, further decreasing plant downtime and running costs.



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