WATSON MARLOW Fluid Technology Solutions

Water and wastewater treatment

World-class pumps for today's challenges

The right pump, with the right support

Plant operators need reliable, low maintenance pumps to ensure water quality, meet budgets and adhere to changing environmental legislation. Combining our water and wastewater industry expertise with continual investment in pump innovation, Watson-Marlow Fluid Technology Solutions delivers a wide range of pump solutions that help our customers meet their objectives with confidence.

For decades, Watson-Marlow Fluid Technology Solutions has helped water and wastewater treatment plants safeguard end-product quality, reduce cost of ownership, and minimise risk.

Our peristaltic pumps have no valves, diaphragms, rotors, stators, universal joints or lobes to fail. The risk of siphoning and gas locking, common in diaphragm pumps, is eliminated. They're simple to operate, accurate, self-priming and capable of being run dry. This results in pumps that deliver:

- accurate, contamination-free metering and dosing
- reliable handling of slurries, viscous, abrasive and corrosive fluids
- significantly lower total cost of ownership

The combination of the right products, supported by a global network of experienced support, is the reason leading water engineers turn to Watson-Marlow Fluid Technology Solutions to help them meet today's challenges.

Potable and process water treatment

Accurate, reliable chemical metering—reducing maintenance and risk

Worldwide we help water treatment engineers to reduce contamination risks, meet growing demand, and keep costs low. They trust our chemical metering pumps and hose pumps to achieve consistent water quality.

qdos Peristaltic Metering

Accurate, versatile chemical pumps

Qdos metering pumps are an easy, drop-in replacement for diaphragm pumps, without the headaches. There is no ancillary equipment and the patented ReNu® pumphead can be replaced quickly and easily, with no tools for fast and safe maintenance. With flow rates from 0.1 to 2,000 ml/min, Qdos pumps are ideal for disinfection, pH adjustment and accurate dosing of coagulants.

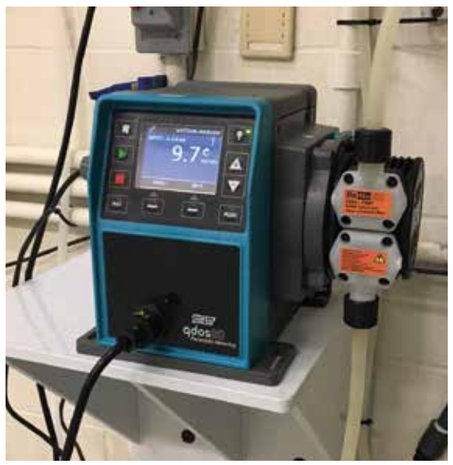
Accurate chemical metering – with no gas locking

- Issues with off-gasing in sodium hypochlorite metering eliminated
- No valves, seals or glands in the fluid path to clog
- Significant reduction in process downtime and maintenance

The Victoria Water Treatment Plant in Minnesota, uses carefully metered fluoride, chlorine and polyphosphate during filtration, clarification and distribution.

The diaphragm pumps at the plant were susceptible to gas locking problems. Faced with regular downtime to bleed the lines of gas, Victoria looked for a more reliable alternative.

Since turning to Qdos peristaltic pumps the plant has significantly reduced maintenance downtime to replacing the Qdos ReNu pumphead just once a year, achieving constant, reliable performance between changes.



Ensuring the supply of safe drinking water

- Clogging issues with diaphragm pumps eliminated
- Significant reduction in spares and maintenance costs

High concentrations of iron and manganese in the Canadian Barrie region, mean that a sequestering agent is required for potable water. The City of Barrie Water Operations Branch uses sodium silicate (Na2SiO3) to bind the Fe/Mn and prevent it from oxidising.

Diaphragm metering pumps had been chosen to meter between 4-6 parts sodium silicate, until their sticking and clogging ball valves caused frequent, costly maintenance visits to this unmanned site.

With no internal ball check valves, Qdos pumps were easy for the water operations department to justify on the costs of downtime and spare parts alone.

qdos Peristaltic Metering

APEX Hose Pumps

Robust performance with aggressive fluids

APEX hose pumps are designed to reduce costs by increasing your uptime and process continuity. The precision machined hose element and optimised hose compression ensures accurate and repeatable performance. They're robust, easy to maintain, and more reliable than AODD or PC pumps—perfect for transferring or metering aggressive or abrasive fluids. The pumps deliver unmatched flow stability from 2.8 up to 6,200 L/hr, at up to 8bar.

More accurate pH – and a 90% maintenance time saving

- Flow consistency aids process quality
- Pump runs longer without maintenance
- Maintenance is quicker and spares less expensive

At the Canyon Regional Water Authority (CRWA) plant in Texas, engineers used a PC pump to dose abrasive lime slurry. However abrasive wear to the rotor and stator left pH accuracy poor and maintenance costs high.

Instead, CRWA installed an APEX35 hose pump—and the difference was immediate. The plant has reported consistent water quality with a radical drop in maintenance.

With expensive consumables like stators and rotors to replace, the PC pump had needed up to five hours of maintenance, every three months. By contrast, replacing the hose on the APEX35 takes no more than 30 minutes on site.

Wastewater treatment

Safe, accurate chemical metering pumps and heavy duty pumps for challenging tasks

There are few fluid engineering challenges harder than managing wastewater. Unpredictable composition, high solid content… even the chemicals you use for treatment are tough. We help engineers keep processes running, and protect product quality within strict environmental limits.

Removing phosphates and a 98% reduction in process downtime

- Highly accurate and clean metering solution
- Maintenance time cut from 1.5 hours to 5 minutes
- Longer maintenance intervals compared with diaphragm pumps

Eliminating phosphates is a vital part of purification. This means adding precipitants such as ferric chloride.

These aggressive and abrasive chemicals are extremely sensitive to changing conditions. Fluid viscosity can vary, affecting performance in diaphragm pumps.

At one wastewater plant in Germany they grew tired of reducing flow in their diaphragm pumps to 25% and recalibrating constantly to meet changing chemical demands. The aggressive chemicals meant the plants engineers were replacing pump diaphragms far too often.

Since changing to Qdos with ReNu peristaltic technology, which tolerates viscosity and pressure changes without recalibration, process accuracy has been constant. Maintenance now takes as a little as one minute: a 98% reduction in downtime.

qdos
Peristaltic Metering

Bredel
Hose Pumps

Minimum maintenance; maximum performance

Bredel heavy duty pumps handle abrasive sludge, paste, and slurries at 100% volumetric accuracy. Unlike diaphragm, rotary lobe, and PC pumps, no moving parts come into contact with the product, and there are no mechanical seals. That adds up to high performance, minimal maintenance, and consistent, dependable flow at up to 108,000 L/hr and pressures to 16bar.

Pump repair costs for fat removal eliminated

- Bredel pumps successfully transfer floating fats with waste matter
- Problems with clogging lobe pumps eliminated
- Significant savings in maintenance cost and resources

At one of France's largest wastewater treatment works, the rotary lobe pumps used to remove floating grease regularly became blocked by waste matter.

This meant regular repairs to the pumps and crushers—worse still was the risk of overflow of wastewater into the nearby River Seine.

The wastewater engineers chose two self-priming Bredel 65 hose pumps to transfer the fat, at a flow rate of 7m3/h, a speed of 17.5rpm and 10bar pressure.

In the year since installing of the Bredel pumps there have been no blockages, and repair costs have been eliminated. The engineers have reduced their operating costs, and their risk.

Recycling viscous industrial wastewater for treatment

- Issues with clogging lobe pump eliminated
- High suction capability to transfer viscous fluid
- Maintenance costs and process downtime reduced

Increasingly companies worldwide are required to reuse wastewater—reducing disposal costs, and easing pressure on surface and groundwater resources.

One European automotive manufacturer was a using lobe pump to recycle wastewater containing varnish through a filtration tank in its painting plant. Application of a protective layer of varnish to vehicles after painting is a critical part of the process.

Before the wastewater could be recycled, residual varnish had to be removed. However when exposed to air the varnish became very viscous. The recycling process was prone to frequent blockage, resulting in costly pump maintenance and process downtime.

The engineers replaced the lobe pump with a Bredel 50 pump. Due to the high suction capability of the Bredel pump, the viscous wastewater was able to be drawn up to the tank. With no moving parts coming into contact with the wastewater, blockages have been eliminated, delivering significant savings in maintenance and repair.

Bredel
Hose Pumps

WATSON MARLOW Fluid Technology Solutions

INDUSTRIAL SOLUTIONS

WATSON MARLOW Pumps

WATSON MARLOW Tubing

Bredel Hose Pumps

masosine Process Pumps

AFLEX HOSE

Watson-Marlow Fluid Technology Solutions

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